The Builder.

No. CLXXVIII.

SATURDAY, JULY 4, 1846.

SOME letters received at different times from architectural students, on the eve of completing their term of apprenticeship, relative to the next step they should take, suggest to us two or three observations, which seem called for, and may apply in part to more than this one class of our readers.

In these letters two things are particularly remarkable, namely, exclusive attention to pointed architecture, and great *self-conceit*. Some of the writers propose to travel, and inquire if we do not consider (as they do) that it is waste of time to go to Greece and Rome, and that their proper course is to confine themselves to the study of mediæval art in France, Belgium, and Germany?

To this we strenuously say No; and urge all our young friends to whom the advantage is possible, to visit the classic lands, and study the wonderful works remaining there. We will sing with Thomson,

> "O Greece! thou sapient nurse of finer arts!
> Which to bright science blooming fancy bore,
> Be this thy praise, that thou, and thou alone,
> In these hast led the way, in these excelled,
> Crown'd with the laurel of assenting Time."

Go to the farthest first; if not to Athens, at all events to Rome, and go at once. Belgium, France, and Germany, are so close at home, that you may at any time make an opportunity to visit them, and examine the beautiful examples of middle-age architecture which they possess; but if you neglect the more distant journey in the outset of your career, you will find, connection and consequent ties increasing, that every succeeding twelve months will make the task more difficult, and that ultimately it will be impossible.

We have the sincerest admiration for mediæval architecture; and seek earnestly to render known, within our sphere, the best examples of it. It is peculiarly well fitted for ecclesiastical purposes; all our associations are in favour of it so applied: the contempt heaped upon it by the lovers of classic art, until within the last fifty or sixty years, is seen to have proceeded from prejudice and ignorance: our knowledge of the principles which regulated it is increasing, and our ability to reproduce and combine its parts. Still this should not tempt us, as it seems likely in some cases to do, to consider it the only sort of architecture worthy of study, and lead us in a spirit of retribution, to affect to despise the works of the antique world, where

> "First unadorned,
> And nobly plain, the manly Doric rose;
> Th' Ionic then, with decent matron grace,
> Her airy pillar heav'd; luxuriant last,
> The rich Corinthian spread her wanton wreath.
> The whole so measur'd true, so lessen'd off
> By fine proportion, that the marble pile,
> Form'd to repel the still or stormy waste
> Of rolling ages, light as fabrics look'd
> That from the magic wand aerial rise."

Many of our student friends look scornfully on the "orders," and turn up their noses at Sir Christopher Wren: they feel quite satisfied that they are much wiser than their forefathers, because they know what a hagioscope is (perhaps they don't after all), and have a little clearer notion of the principles of pointed architecture, through the investigations of others and not of themselves, than the practical, hard-working, old-school man had, with whom they studied.

Conceit (we do not mean self-confidence) is a sure sign of small knowledge. When we first get an insight to a science, the points are so striking and so new, we see so clearly the extent of our acquirement, that we form an exaggerated opinion of our progress, we feel how *much* we know, and begin to fancy we are "not as other men are." As we advance, and see into the depths of it, this feeling quickly disappears: we find how *little* we really do know, and how circumscribed is our power of attainment. The more extensive a man's knowledge becomes, the less hastily will he pronounce on the inferiority of those with whom he may meet. He will find that every man knows something which he does not,—is in one respect or another better than he is,—and will learn to regard all with a certain consideration. He will avoid scoffing at the ignorance of a comate in one particular, on the ground if on no higher, that he must himself be open to similar rebuke in another.

We would apply the remark to our own subject. Knowledge of a few striking dogmas, and even tolerable proficiency in the use of the pencil, do not constitute an architect. There is much more to be acquired by a student before he can enter the arena with any chance of success, and we advise those young gentlemen who have gravely complained to us of the want of a particular knowledge on the part of those to whom they are bound, to respect them for the knowledge which they *have* in other departments, and to strive to benefit by it. To find fault is more easy than becoming.

RESTORATION IN OXFORD.

A VISIT to this charming old city serves to take one back into the past, and makes history more real. We often steal an hour or two, when near it in the course of everyday duties (and thanks to railways you are now always near every place), and wander about the colleges, the churches, and the gardens, with advantage in more respects than one. It distresses us on these occasions to observe the rapidity with which many of the buildings externally are hastening to ruin. In a few years, unless something be done, two or three will be shapeless.

There is much bad Gothic in Oxford; still there is nothing that we can afford to lose. Moreover, there is no reason why it should be lost, there is no lack of funds, and these should be applied at once, and applied *wisely* in restoration of the venerable fabrics left by our forefathers. One especial point to be attended to is, (the assistance of a well qualified architect, being always the first), that an enduring stone be used, and that no sacrifice of perfectness be made for the sake of some present saving.

The entrance front of Queen's College, a comparatively modern structure, is in progress of restoration: the whole face of it having decayed, is being replaced. The material used, some of our readers will grieve as much as we did on hearing it, is perishable Bath stone, in the face of experience, and in spite of warning. Decay will have commenced before all the scaffolding is removed. For once we were glad to learn that no architect is employed.

One word, financial, to such of our friends as may be led by this brief reminder, or other circumstances, to pay Oxford a visit, and would know a reasonable inn. It isn't the ANGEL, just opposite the aforesaid Queen's, notwithstanding the lowliness and goodness the sign incarnates, and those who, like ourselves, have to distil their gold through a quill, or pick it out of the pockets of employers with the point of a black-lead pencil, may thank us for the hint, and go further without faring worse.

WATER—HOUSE-SUPPLY—DRAINAGE.

To the architect, the considerations relating to the supply of water must ever be of high importance; for it must often rest mainly with him whether or not it will be sufficient, and of suitable quality, points on which hinges much of the comfort of all classes. In towns, these considerations are often beyond his cognizance, but in the country they are clearly within his sphere, and imperatively demand his best attention; here he must be his own engineer, his own chemist, and without he possess a good practical acquaintance with the subject, the risk is, he will fail to carry out a system to either his client's satisfaction or his own.

PURE WATER, properly so called, is only to be found in the laboratory when it has undergone the process of distillation, and is secured against the action of the atmosphere. Water, as it usually reaches us, whether from clouds, springs, wells, rivers, lakes, or ocean, is always more or less in combination with other bodies, either mechanically suspended, or held in solution; such being the case, it becomes a primary consideration how to divest it of these extraneous matters, and the first to suggest itself is the process of filtration. On a small scale, an efficient filtering vessel may be formed of a common garden-pot, well burnt, and with holes in the bottom; the lower part to be filled with round pebbles, then some smaller pebbles, then some coarse sand, and finally a stratum of pounded charcoal 3 or 4 inches thick; the use in large filters of broken shells interposed between the gravel and sand, is a great improvement, inasmuch as the fragments being flat overlap each other, and counteract the tendency of the sand to settle amongst the gravel, thus preserving a free percolation through the lower strata; in some methods, the process of filtration is inverted and operates by high pressure, but experience is in favour of the simple downward process, the upward may, however, be rendered of service in cleansing the filtering media. The antiseptic and conservative properties of charcoal are well known; if this ingredient be omitted in the filter, as it is in those of large water-works, though a perfectly clear and transparent fluid free from sediment and colour be produced, yet the water will not be freed from the more subtle animal and vegetable impurities suspended in it, or from the taint which it may have thereby acquired: but with charcoal, on a properly regulated system, the water, however foul and fetid, will be restored to its original brightness and purity, the mineral part alone retaining its hold, especially chalk, which no filtering process will separate.

Thus we find that water, containing mechanical admixtures, may be cleared by filtration; but that where these are chemical, distillation or other processes are requisite. That quality in water which is popularly termed "hardness," and which, in the waters of London, is a ground of so much complaint and annoyance, is due to the presence of chalk; the separation of which long baffled the best skill that could be brought to bear on the subject. It is this ingredient which is the cause of such an enormous consumption of soda in London; for soda neutralizes the chalk, though at the sacrifice, gradually, of the colours in the articles submitted to it; at the same time it materially lessens the requisite manual labour. But it is not the inconvenience alluded to that is alone caused by the presence of chalk in water; a much more serious ground of alarm exists in reference to its effects in the human frame, respecting which the fact shall speak for itself that, in the museum at Montpelier, there is a large collection of *calcidi*, taken from the bladders of patients of the town and surrounding districts, all calcareous, and of various sizes, forms, and shades of colours; and so distinctive, that the attendant there a few years ago could tell, by their similarity to the chalky soil of the respective districts, to what "department" the person belonged from whom any of the concretions had been taken. This fact requires no comment. Although lime is a necessary ingredient in the formation of man's bones, water from a chalky soil cannot fail to deposit a great amount of its particles in the intestines.

HARD WATER is known by its curdling or decomposing soap, which may be employed in it; this is an unfailing test: the contact of

stone, clay, and even sand, hardens water. For mere drinking, pure pump water is confessedly the best; not because it is at all more wholesome, but because, by being impregnated with mineral substances, it is more grateful to the palate: what we above adduced, however, is suggestive of caution in its indiscriminate use. The term *mineral water* is applied to those that contain such an excess of mineral and other foreign substances, that they cannot be used for domestic purposes; the minerals are generally held in solution by carbonic, sulphuric, or muriatic acid; *chalybeate springs* are those containing carbonate of iron. Sulphur enters into the composition of the *Harrowgate water* and others, to which it gives a smell resembling that of rotten eggs; all springs yet discovered contain some muriate of soda, otherwise common salt.

It remained for Dr. Thomas Clark, of Marischal College, Aberdeen, to achieve, a few years back, what had hitherto defied the skill of his most eminent compeers in chemistry. His process, which we believe was patented, we shall briefly explain:—chalk, which is the ingredient to be separated, is also the chief material for effecting the separation. Although in itself it is insoluble, it is all but rendered soluble by two methods which are very opposite to each other:—one consists in burning it in a kiln, by which it loses seven ounces out of the sixteen—the lost seven consisting of carbonic acid gas, and the remaining nine being caustic lime, which is soluble in forty gallons of water,—this solution is called *lime water*, and is perfectly clear and colourless. In the other method, instead of seven ounces of carbonic acid being abstracted from the pound of chalk, the latter is made to combine with seven ounces more, when it assumes the state in which chalk exists invisibly in the waters of London: this being dissolved in 500 gallons of water, changes to a *solution of bi-carbonate of lime*, which is as clear and colourless as the lime-water. Now, if two lime-waters be mixed together, or two solutions of bi-carbonate of lime, no change will take place; but when the forty gallons of the former and 500 gallons of the latter are commixed, a haziness very soon appears, increases to a whiteness, becomes like whitewash, then subsides, and in process of time leaves 540 gallons of pure water above, with the two pounds of chalk, and that which was held in solution by the water before the process took place, at the bottom;—the first pound having resumed its original state by uniting with the seven extra ounces of carbonic acid conveyed by the second. The amount of chalk thus separated being ascertained, the previous hardness of the water, or the existing hardness of that continuing to issue from the source whence it was obtained, may be determined in *degrees*, which Dr. Clark expresses as follows, namely: 1° equivalent to one grain of chalk per gallon, or the hardness of water generally in degrees which are *equal in effect* to so many grains of chalk per gallon. According to this scale, the doctor (who attaches the utmost importance to the softness of water) has stated the hardness for various towns as follows:—

Aberdeen	1°
Glasgow (about)	4½
Edinburgh	5
Newcastle-upon-Tyne	5
Pipe-water of London	11 to 16
Ditto Manchester	12
Paris harder than any of the above	
Wells in London	40 to 80

He considers that a water ceases to be agreeable for washing when it is above 4 or 5°, and that 16° is the utmost point that can be conveniently used, to get a proper lather.

It is worth knowing, when the method by which this radical cure is effected is not conveniently available, that the sun's rays, and the action of the atmosphere, exercise a very beneficial influence in softening water; and boiling will bring hard water nearly to the state of soft. Also, when filtering is out of our power, that impure water, by sprinkling alum in it, which causes a precipitation, may be brought in the course of a few hours, to possess nearly all the freshness and clearness of the purest spring water; a table-spoonful to a hogshead, or a teaspoon to a pailfull, and the water stirred while it is put in, being sufficient to produce the effect; its hardness will be somewhat increased by the mixture, but that may be corrected by the means we have referred to.

River Water, which is generally polluted with extraneous bodies, it has been ascertained, may be purified, so as to lose all unpleasant odour, flavour, and colour, by being suffered to remain completely undisturbed for a period of some weeks; during this time, in consequence of the presence of animal and vegetable matter, it undergoes fermentation, ultimately resuming its transparent purity, and precipitating a small portion of insoluble sediment. Water-companies, who only practice the method of subsidence in reservoirs, would thus be fully justified, if they could allow the water sufficient time to clear itself; but that is quite beyond their power; and without the lapse of time alluded to, the slightest agitation suffices to diffuse again the depositing particles, and, instead of purity, putridity is what may be expected.

An analysis of Thames water, from near the following points, viz.—

	Brentford.	Hammersmith.	Chelsea.
Gave, in grains, carbonate of lime	16·	16.9	16·5
Sulphate of lime and common salt	3·4	1·7	2·9

Also a very minute portion of oxide of iron, silica, magnesia, and carbonaceous matter.

Rain-water, from its containing ammonia, possesses eminently the property of "softness;" this, granting that spring-water may be preferable as an article of food, entitles it to the highest estimation for general purposes, and we have therefore long looked upon its wholesale discharge into common sewers, whether on the small scale, as affecting merely private interests, or on the broad principle, as regards towns, as a most improvident, inconsiderate practice. The presence of ammonia in rain-water may be proved, by adding to a quantity in a clean porcelain basin, a little sulphuric or muriatic acid, then evaporating it to dryness, when it will remain in the residue, in combination with the acid; and may be detected either by addition of a little chloride of platinum, or a little powdered lime, which will separate it, and render sensible its peculiar pungent odour.

Marsh-water is found by simple distillation to manifest an acid quality; it abounds with decayed vegetable matter, the most unwholesome of all substances, and when brought into contact with water and submitted to the action of the sun's heat, the most offensive.*

James Wylson.

PROGRESS OF THE HOUSES OF PARLIAMENT.

The following is the third report issued by the House of Lords' committee nominated to inquire into the progress of the building of the Houses of Parliament; and to whom leave was given to report from time to time to the House:—

"Ordered to report, that the committee have met, and further considered the subject matter referred to them, and have examined two witnesses in relation thereto, and the committee are of opinion that the only impediment to the preparation of the new House of Lords, for the commencement of the session of 1847, arises from a delay in the arrangement for warming and ventilating the apartment according to the views of Dr. Reid.

That the architect has expressed his willingness to undertake the warming and ventilation of the new House, upon a plan of his own, and on his own responsibility.

That the committee are convinced, that if this proposal of the architect be not accepted, the occupation of their new House by the Peers will be postponed to an indefinite period.

And the committee have directed the further evidence of Mr. Barry, taken before them, to be laid before your Lordships."

Since the publication of this report, Dr. Reid has presented a petition praying that the task of ventilating the new Houses of Parliament might not be transferred into other hands until he had been heard upon the subject.

The following are portions of Mr. Barry's evidence referred to:—

"The committee had an impression, from evidence given by you on a former occasion, that you would be willing to undertake to warm and ventilate the new House of Lords upon a system of your own?—I believe I so stated.

If you were to adopt a system of your own, would it render it impossible hereafter to revert to such a system as Dr. Reid has in a general way recommended or suggested?—Is it meant that that question should apply to the House of Lords exclusively, or to that and any other portions of the building?

To the House of Lords exclusively?—As the subject is altogether new to me, I could not at the present moment answer satisfactorily; but if your lordships would give me four-and-twenty hours to consider that point, I will then be prepared to give you a definite answer to the question.

Do you think that you could prepare the apartment for the Peers by the commencement of the session of 1847, if it were ventilated and warmed according to your own system, and without any interference with your system from any other quarter?—Until I have determined what that system shall be, it would be rather difficult for me to answer that question. With respect to the fixing of the joiners' work, as unfortunately a very large portion of the year, and the portion best adapted for fixing work of that description, has been suffered to elapse, I should be sorry to pledge myself that I would completely finish the House of Lords by the time mentioned, viz. the commencement of the next session; but all I can say is, that I will do every thing in my power to accomplish the object, and I trust that I should at least be able to bring the House into such a state as, if not completely finished, it might be occupied by your lordships.

The "session" is rather an indefinite word; do you mean by the 1st of February?—I understand the commencement of the session to mean the 1st of February.

You think you could get the House ready by the 1st of February?—I should not wish to pledge myself to have the House completely finished in all respects by that time; but I think I could finish it so completely that it might be occupied by your lordships.

You mean that every convenience for the sitting of the House might be supplied, although the more ornamental parts might not be finished?—Exactly.

Has any further advance been made in the arrangements of Dr. Reid since you were last examined before this committee?—Not that I am aware of.

Have you the slightest hope, from what has already transpired, and from what you are able to collect, that the work would be at all advanced by this time next year, unless some new arrangements were made with regard to the ventilation?—I must say that I have no hope whatever.

All the fittings are prepared?—They are, with the exception of portions of the throne, and they would be prepared during the time that the rest of the fittings were being fixed.

In making any arrangement for the ventilation, you do not conceive it will be necessary to destroy any part of that which has already been prepared in connection with the arrangements suggested by Dr. Reid?—I do not think it would be necessary to destroy any part; it would be necessary, probably, to modify some of the arrangements, in order to make them available to my own system, if I may so call it.

In the arrangement that you would contemplate for warming, you would not have to alter the ceiling, or any thing that has been done there?—Not at all.

Is the putting up of the ceiling a very expensive work?—The putting up of the fittings is a very expensive and rather tedious work; the work is of an unusual description, and will require the greatest possible care in fixing.

Are you in such a state that you could proceed immediately towards the completion of the House if you received the necessary authority?—Yes; I am quite prepared to do so.

Will you describe the state of forwardness of the building adjoining the House, including the lobbies?—The Victoria Hall, which is the apartment immediately adjoining the throne end of the House, is covered in, and the ceiling is nearly fixed. I think it possible to make that room available as well as the House, although the fittings which are to be placed in it might not be completed. The public lobby is also roofed in, and the ceiling is completed, and if it were necessary, that portion of the building also might, I think, be got ready for use. The finishings of the corridors adjoining the House on each side are entirely prepared, and I think, if the time is sufficient for fixing

* To be continued.

the work, which is very minute and elaborate, there is no reason why the corridors should not also be made available for occupation with the House.

What is the state of the royal gallery?—The roof of the royal gallery is on, and a commencement is made with the fixing of the ceiling.

What is the state of the Queen's robing room?—The roof is over the Queen's robing room, and the brick arches forming the ceiling are turned, but none of the fittings are commenced.

In what state is the staircase from the royal entrance?—That is in a very forward state. All the stonework is completed, or nearly so, with the exception of the steps.

Have you sufficiently digested your plan for the ventilation to be able to state in what manner you propose to introduce the air into the House and the lobbies?—No, I have not, because my attention has not been directed to that part of the subject.

But you have stated that you would be prepared to undertake the ventilation and warming of the new Houses, and to complete the arrangements before the meeting of next session?—Yes.

Without tying you down to a day, you can have no objection to the committee reporting that you propose to ventilate and warm the apartments upon your own responsibility?—None whatever.

And that that is not the portion of the work from which you contemplate any delay in preparing the House for next session?—Not at all.

If Dr. Reid's plan was abandoned, as it respects the House of Lords, will the central tower still be necessary?—If Dr. Reid's system, or any part of it, is adhered to in other parts of the building, it will certainly be necessary, according to the arrangements made, to have the central tower.

But not otherwise?—Not absolutely necessary, except for Dr. Reid's purposes.

With respect to the central tower being abandoned for the purposes of ventilation, might not that tower be made available for other public purposes?—I think it might.

Do not you think that even in the event of abandoning Dr. Reid's scheme it would be a great loss to the design if the central tower were given up?—I think it would be very desirable to retain the central tower; but I do not mean by that to say that it would be desirable to retain the same height or form of tower as would be required by Dr. Reid for his ventilating purposes. I think the central tower would be a great ornament to the building; but I am not of opinion that it is necessary to carry it to the height that Dr. Reid requires in order to obtain the effect that I should desire.

The central tower, such as contemplated by Dr. Reid, would be of a lower height than the Victoria tower?—I am hardly prepared to answer that question, because I am not aware that Dr. Reid has yet made up his mind as to the height of it. When I have spoken to him on the subject, he has said, "I should like to have it as high as possible; the higher the better; higher than Saint Paul's," and so forth.

What is the proposed height of the Victoria tower?—About 342 feet.

IMPROPER FIXING OF BALCONIES.

Our attention has been directed to an accident which happened at No. 52, Manchester-street, a short time ago, when a lady and gentleman were precipitated into the street by the failure of a balcony in the front of the house. It was wholly of iron, of light construction, and was put up, as too many of them are, in the most careless and reprehensible manner.

It is to be hoped that the district surveyors will enforce proper precautions in this respect. We could point to a range of houses at this moment, provided with iron balconets to the first-floor windows, every one of which are insecure. The ends of the top bar and of the bottom bar are simply driven into the brickwork two or three inches, with plugs of wood, and if no accident happen, it will be through God's mercy and not the builder's care.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Cornelius's Cartoons for the Mausoleum of the Kings of Prussia. Rome, May.—German periodicals say, that the metropolis of art has been taken by surprise; and the name of the above artist, and that of German endeavours placed in their highest *relief*. It is not only the grandeur of composition, which strikes the beholder at the exhibition of these huge art works—but even the mechanical (pictorial) elaboration has reached here a degree, which to surpass, our age may vainly hope for. Not only the fine *lineaments* of the master seize us with astonishment, but every part of the detail partakes of the same completeness and sterlingness of production.

The subject of these cartoons is derived from the forcible picture of the Apocalypsis, representing those four *mighty ones*, who have to come at the destruction of the world. On horses, which have grown together with them centaur-like, they pierce the expanse of the air. Before them, a savage chief, who like the Apollo of Homer, sends forth the arrows of plague and disease. Next to him is distress and hunger personified—then war in the shape of a youth of surprising beauty, who with both hands uplifted, wields the sword of destruction—in fine, drear death, which with portentous scythe, mows down all, the others have left unscathed. A choir of departed (beings), follow the portentous *four* with an utterance of anguish, which we think to perceive from out of the *un-mute* canvas. This most artistically combined group has been much admired, and has reminded every one of the gigantic Buonaroti—although it cannot be said, that one stroke is exactly or properly copied from him. It is merely *eleven* figures, amongst them three children, who have sufficed for Cornelius to depict *mankind perishing*. Still there *is* enough to strike fancy and move the mind. And yet the artist has, in some instances, imitated the example of Timanthes, who in his picturing of the sacrifice of Iphigenia, represented Agamemnon "with face covered." But how expressive, after all, is the figure, the posture of a youth, who amidst the agonies of death, *covers* his face with his convulsed hands! Who could name or express the anguish of those females, who imploring mercy, prostrate themselves on their knees before the pitiless *four*. Beyond all, however, anguish is pictured in the two little children, superfused with celestial beauty—studies of the deepest knowledge of man's mind-life. The young bride shares the fate of the others—but such tender ones do *not* know of despair; which, however, breaks forth with all its enormity in the countenance of the man, felled to the ground with his arms crossed under his breast. It is he who forms the middle part of that scene of celestial horrors. [Our readers must remember, we are giving the opinion of others, not our own.]

Munich. Picture of "Home" Scenery.—Mr. Rottmann, who had, for several years past, occupied himself with painting Greek scenery, has produced of late a picture of home (German) scenery, which shews, that while southern nature has its charms, a character of high feeling may be imparted to those of our northern climes. The picture exhibited by the Art-Union—the property of H.M. the King—represents a mountain foreground, wrapt in eve-darkness, inclosing a sombre lonesome lake, and a high peak, illumined by a ray of parting sun. It appertains to the kind of (if we may say so) *high* pictures, as there are high songs, whose attraction increases on close and closer examination, and whence, constantly, flows high satisfaction for the feeling mind. Another picture (also belonging to the King) is by *L. Galloit*, the Belgian master, known by his historical piece, "The Abdication of Charles V." This time, however, he has not taken such high flight, but merely represented a cabinet picture—"A Carmelite friar assuaging the necessities of some poor." Thus benevolence and charity are thought in the very domain of art.—The sculptor Lassow, from Bremen, has received orders from the town council of his native city to construct a monument for the late deserving shipwright, Mr. Lange, at Vegesack.—The last, but not least, we have to mention, is an act of generosity of some Munich artists towards one of their art-companions, the painter Genelli. They have entered into a subscription, for enabling that talented man to sketch out and engrave some of his series of illustrations of Dante's "Divina Comedia."

New Method of Finishing Bronze Statues.—The bronze statue of Huskisson, just completed in the royal brass foundry of the Bavarian capital, deserves an especial notice, on account of a new method of chasing which has been resorted to in this case. It is known that newly-cut brass possesses a strong lustre, which destroys the mellow aspect of the work; on which account artists have resorted to the expedient of producing a sort of artificial *patina* by the use of mineral acids. For the sake of imparting to the above work an uniform mellow appearance without using acids, Inspector Müller has resorted to the method of dead chasing. This has been perfectly successful; and the uniform tone which has been obtained in the whole work, bids fair that the *patina*, as it will appear in due course of time, will be also uniform. By the use of different sorts of files, a really different *grain* of the metal has been cut out, which the artist was able to produce in accordance with the nature of the part thus treated. This method is said to be a real advance in the mechanism of the bronze founding process.

The Vienna Architects, Messrs. Ernst and Escher, have undertaken to publish a work on Austrian mediæval buildings, in parts containing lithographic plates and text. The front and portal of the cathedral of St. Stephen will be the first published. These will soon appear in their original state, as the cleansing of their dusty sculptures and ornaments—moreover covered with layers of whitewash, and all sorts of varnish—will be soon completed. During this process, an ancient painting of the whole portal has come to light, which discovery may lead to others interesting for the polychromy of the middle ages. The statues, also, as well as capitals and canopies over the figures of the saints, in the interior of the dome, shew traces of former painting and gilding—so that we may properly say, that we have hardly an idea how splendid and gay these massive piles must have looked in the days of our ancestors!

Iron Strata near Civitavechia.—As the Papal states have hitherto imported most of their iron from Elba, the above discovery is an important one, and will contribute towards the establishment of railroads, &c. The strata are found in the mountains of Tolfa, and are very rich. The analysis which has been made of the ore at Lyons is most satisfactory. In the same tier are the famous alum quarries, as well as the finest marble—fit for the largest statuary works.

Galvanoplastic Institution at Berlin.—This establishment, under the care of Baron Hackewitz, and which hitherto has accomplished much in the departments of trades-mechanism, has begun of late to extend its activity to the higher arts. After making a suitable beginning with relievos and the like, it has attempted now even colossal sculpture works. Amongst them is a cast (rather a *precipitate*) of the head of the Ludovisi Juno, with the bust added after Rauch. It has been accomplished with astonishing exactness, without any after-chasing at all. This has been done by order of the king, who patronizes the establishment of Mr. Hackewitz to a great extent, and by H. M.'s orders also, the colossal statue of Christ, made by Thorwaldsen, has just been modelled for the sake of being galvanoplasted. The king has also ordered, that the huge brass doors for the Wittenberg church, and which have to contain all the ninety-five Luther theses, be executed in this establishment. The surface of the metal, of which these huge galvano-plastic art-works are to be made, consists of a composition of bronze, which, according to its mixture, acquires by the successive action of the air, a beautiful mellow darkening hue, which, there is every reason to believe, will resist well the inroads of the external atmosphere. Thus it may be taken for nearly certain, that galvano-plastic will soon compete with bronze cast works.

Gigantic Statue of "Bavaria."—On the 15th May, the well-known bronze foundry inspector Müller, at Munich, undertook the casting of one of the lower portions of the statue, whose size surpassed that previously cast (the bust) by one-third. The heat in the atelier was excessive, and the flood of the great

mass of metal excited some apprehension; still the casting has been perfectly successful, and thus the half of that—the largest of modern statues—is completed, this piece alone weighing 500 cwt.

H. M. Emperor Ferdinand of Austria—has, in filial piety, undertaken to erect a statue to his late parent. It has been cast by Cavaliere Marchesi, at Milan, and thence transported to Vienna, not without great difficulty, as its weight amounts (with the packing) to 250 cwt. J. L——y.

RAILWAY JOTTINGS.

The recent stoppage of the atmospheric traction on the Croydon line, it appears, has not been merely owing to the melting of the sealing composition by the heat of the sun. The substitution of thin steel plates on this line, in place of the upper strips of leather along the valve, as on the Dalkey section of the Dublin and Kingstown line, instead of being an improvement, has been found to constitute "one of the greatest possible hinderances to the proper development of the system; inasmuch as nearly the whole of the thin steel plates have been snapped asunder, so that the sharp edges came in contact with the leather each time the valve rose, in many instances cutting it completely through; and hence the vast increase of leakage, and consequent decrease of power." A return is being made to the double leather system, and a new sealing composition has been invented, which, it is said, will withstand the usual effects of a wide range of temperature. The line was to recommence working during the present week. ——The Brighton, Lewes, and Hastings line is to be opened to-day from Lewes (to which place it was opened on the 8th ult.) to St. Leonards. From Lewes to Hastings the line is at present a single one. The chief engineer is Mr. Rastrick. From St. Leonards to Westham Mr. Kirby has had the superintendence; from Westham to Glynde, Mr. Harrison; and from Glynde to Brighton, Mr. Meredith. The contractor, Mr. Wythes, commenced operations in 1844, but the greater portion of the land could not be obtained till about twelve months ago. Mr. Fabian, of Brighton, is the contractor for the permanent station at Lewes, and the temporary sheds along the whole line, all which are in a forward state.——The double line of the Taff Vale railway has been opened and at work since Whit Monday. It is a curious and important fact, stated by the *Cambrian*, that "while the traffic upon the Taff Vale railway taxes the utmost capabilities of the line to accomplish, that upon the Glamorganshire canal, which runs almost parallel to it, also increases. The Act of Parliament governing the latter undertaking," continues the *Cambrian*, "limits the dividend to eight per cent. per annum; and it is said, that the company can afford to carry goods for six months out of twelve gratis, and yet realise a sufficient income to pay the whole of the expenses of the concern, as well as the maximum dividend allowed by the Act."—— The works on the Oxford, Worcester, and Wolverhampton line are begun. A shaft has been sunk for a tunnel of about 260 yards near the site of the Worcester station.——The Ipswich and Bury line, it is said, will be ready for opening in October. In consequence of the heat, the works have of late been in progress by night instead of by day.——From thirty to forty acres of ling or heath were burnt on Saturday before last on the Norwich side of the Thetford station on the Norfolk line, in consequence of some fire falling from an engine furnace; the heath was chiefly the property of the poor of Bridgeham. —— The Lincoln and Nottingham line is to be opened on the 4th of August.——It is said that 2,000*l.* worth of gunpowder has been spent in the blasting of one cutting on the Leeds and Bradford line, near Kirstall.——The Filey railway, a branch of the York and Scarborough, is in rapid progress, and will also be opened in August. It is ushering in other extensive improvements. Several acres on the Spa cliff have been appropriated as a promenade, and the avenues to the Spa well have been greatly improved. A new hotel on a great scale, with baths, promenade, assembly-room, &c., is nearly finished.——The Bridlington branch of the Hull and Selby line is also in rapid progress in the vicinity of Driffield. Messrs. Brown and Hall, builders, Leeds, are busy with the stations, &c., between Beverley and Driffield; and the Driffield station, it is thought, will much improve the main street of the town.——Middlesborough, the line between which and Redcar was lately opened, presents a striking proof of what enterprise can effect. Some few years ago it was a mere nothing; now it has its well-built houses, its large iron foundry, the property of Messrs. Bolckow and Vaughan, who employ about 500 people, its potteries, and other manufactories, and not least of all (at all events in size) its docks. The number of its inhabitants is estimated at about 9,000, a great part of whom have left other towns on the Yorkshire coast, and enjoy there a better subsistence than they could obtain elsewhere. —— The precedent established by the case of *Walstab* v. *Spottiswoode* has been confirmed by Mr. Justice Erle and a special jury at the Court of Common Pleas in the case of *Wontner* v. *Shairp*, and is increasing the business of the lawyers, since scripholders have in consequence begun to manifest great anxiety to have accounts investigated, and deposits repaid; and have even refused, in a number of instances, to receive the sums proposed to be repaid, on the "winding-up" of defunct schemes. Much injustice seems involved in the decisions.

CANVASSING ARCHITECTS.

Sir,—I cannot exactly see the joke of your Birkenhead correspondent, relative to the degree of respectability that would be conferred on the architect by his "traveller," nor can I perceive how he would secure the execution of his work, more than the carpenter, the bricklayer, or even the pot-house keeper, who dare usurp the title, as all would depend on the address of the *commis voyageur*.

Some years ago, I remember a case of competition, where five architects were invited to send in designs for a public building. Three were regularly educated, the fourth had been a scene painter, and the fifth was a bag-man, travelling with his folio of highly-coloured drawings, and some even framed and glazed. The drawings were to be all in plain Indian ink.

The bag-man was accompanied by a *cad* or folio-bearer, and to obtain a second chance, he made a second design. Now, as he was building another edifice in the same place, which, during the consideration of the designs, the committee had found out would cost at least thrice the amount of his estimate, they paused, and two (the most shallow-pated), who advocated his design, finding their protegé would have no chance, proposed that the votes of the subscribers to the building should decide. Canvassing began, but the wondrous *elasticity* of his estimate threw him out, and another would have been appointed, but the folio-bearer was made to volunteer the sixth design. I should have observed, that the three regular professional men declined the canvassing; the battle was between the bag-man and the scene painter; but the bag-man proved, through the folio-bearer, the victor, and the committee have a monument which covers their irregular ground, shews its deformity, and by the utter lack of composition throughout the work, proves their incompetency to judge. Moreover, by some of their recent decisions, they shew that they have not advanced one step during a space of nearly twenty years.

The only honest plan is to submit the designs (all to one scale, and tinted in the same manner) to two or three professional men of character; compensate them for their time, and act upon their decision. Then may we expect to have *substantial* as well as ornamental works executed; and the architect will take his place, which has been too long occupied by *veneer* and *compo* in the shape of ignorant pretenders.—I am, Sir, &c. X.

Increase of Docks at Liverpool.—In the year 1815 they had 52 acres of docks and basins at Liverpool; the tonnage was 709,949 tons. In 1825, there were 71 acres of docks and basins, and the tonnage was 1,233,820. In 1835, there were 99 acres of docks and basins, and the tonnage had increased to 1,768,426. In 1845, the docks and basins had increased to 120 acres, and the tonnage to 3,016,531.

METROPOLITAN IMPROVEMENTS, &c.

On Saturday last, an influential meeting, attended by the Duke of Cambridge (as chairman), the Archbishop of Canterbury, the Bishop of London, Lord Ashley, &c., was held in the new hall at King's College, for the purpose of providing a larger hospital for poor patients than that now in use in connection with the college, and to exonerate the medical officers, and relieve them from the responsibilities voluntarily incurred in the purchase of a site for the new building, which is to be erected in the immediate vicinity of the college, at a cost of between 3,000*l.* and 4,000*l.* By removal of the great number of old houses which stand upon this ground, a large space will be cleared, and facilities afforded for obtaining that direct communication between the Strand and Lincoln's-Inn-fields, which has been so long desired. The sum of 2,500*l.* has been already subscribed; Miss Burdett Coutts (now known, by the way, as the munificent and sole founder of the two colonial bishoprics, lately spoken of) contributed the princely sum of 500*l.* towards this praiseworthy object. In course of the proceedings it was stated by Lord Ashley, and corroborated by the Duke of Cambridge, that, in proportion to the population, Paris, St. Petersburgh, and Vienna surpass London in the amount of such accommodation.—— On Saturday before last a great many gentlemen connected with private schools or academies in town and country, met at the Freemason's Tavern to elect a council for the foundation of a college for schoolmasters. —— On the preceding Thursday, the foundation-stone of the Camden District Schools was laid by Mr. H. Kemble, M.P., for East Surrey. The design is by Mr. F. J. Francis. Messrs. Rand and C. Curtis, of Stratford, are the builders.——The following inscription is now being cut in the north-west corner recess of the colonnade of the Royal Exchange:—

On this site
Sir Thomas Gresham
Erected the first building for the meetings of
The merchants of Great Britain,
Which was named by
Queen Elizabeth
The Royal Exchange,
January XXIII., MDLXXI.
It was destroyed
In the Great Fire of London,
September IV., MDCLXVI.,
In the reign of King Charles the Second.
It was rebuilt,
And opened September XXVIII., MDCLXIX.
On January X., MDCCCXXXVIII.,
The Exchange was again destroyed by fire,
And on January XVII., MDCCCXLII.,
The first stone of this building was laid by
Her Majesty's Consort,
His Royal Highness Prince Albert.
The present edifice
Was also opened by
The Queen of England,
Victoria,
On October XXVIII., MDCCCXLIV.,
Who proclaimed it
The Royal Exchange.
William Tite, F.R.S., Architect.

Objections have been taken to the meaning of the latter part of this inscription, where it is stated that "The present edifice was 'also' opened by the Queen of England, Victoria." The intention is, evidently, to shew that this building, as well as the first, was opened by a Queen of England.

In the south-west corner recess are engraved the names of the members of the Joint Gresham Committee at the opening of the Exchange.—— The establishment of a Joint Stock Company, with a capital of 2,000,000*l.*, is talked of, for the supply of the metropolis with pure soft water by means of Artesian wells.——The reference for the purchase of the houses projecting into the street at Field-lane, Holborn-bridge, made on the 26th June last to the London Bridge Approaches Committee, appears now to constitute the only hope of the removal of the obstructive nuisance at Holborn-hill and its dangerous acclivity. Till lately it was hoped that the evil would be remedied by the introduction of railways into Farringdon-street—the Direct Manchester Company in fact had actually scheduled the projected improvement, but the project has failed. The London Bridge Improvement Committee have been instructed to report forthwith upon this subject. —— The railway companies having

their termini at London-bridge are said to be considering the propriety of running early trains for the accommodation of parties residing or desiring to reside from ten to fifteen miles from town. House property near the lines would of course be benefited within the proposed limits, and the health of the metropolis so far at least promoted.——Crockford's Club House has been sold by the executors for 2,900*l.* It is held on lease, of which thirty-two years are unexpired, subject to a yearly rent of 1,400*l.* It is said that the decorations alone cost 94,000*l.*——On Monday last a meeting was held at Greenwich for the purpose of providing for the erection of a new church in that district. The crown and the trustees of Morden College have both offered sites. The expense is estimated at 6,000*l.*, of which nearly 2,000*l.* have been already raised.

SKELTON CHURCH, YORKSHIRE.*

Skelton Church, small as it is, is a charming example of early English work, and affords an admirable subject for illustration. In the book just now published by Mr. Christian, the structure and all its parts are set forth in the fullest manner, and apparently with great care; it deserves to be purchased by all who are interested in ecclesiastical architecture. There are seventeen plates, each accompanied by a page of letter-press, and preceded by a brief account of the edifice, from which we extract the following:—

The village of Skelton, in which the church stands, lies about four miles from York, a little to the right of the old Great North Road. It contained, in 1841, three hundred and sixty-seven inhabitants.

The church was formerly connected with York, as will be seen from the following extract from "Lawton's Collections relative to Churches and Chapels within the Diocese of York" (vol. ii., page 456):—"The church of Skelton is an ancient rectory, formerly belonging to the patronage of the treasurer of the Cathedral Church of York, and on the dissolution of the treasury it came to the Crown, and in Archbishop Sharp's time the presentation was in the hands of Sir James Brooke." It is prettily situated upon rising ground at the northern extremity of the village, and is freely exposed to view on every side. It is dedicated to "All Saints," though it is sometimes called Little St. Peter's; "perhaps," as the writer in the account of the churches of Yorkshire observes, "from a tradition still prevalent in the parish, that it was built with the stones that remained after the south transept of the metropolitan church of St. Peter at York was finished, and by the same workmen." The south transept of York Minster was commenced A.D. 1227, during the archiepiscopate of Walter Grey; and although no mention is made of its erection in any of the documents belonging to the See of York, there can be little doubt, from the close similarity which many of the details of its architecture bear to similar parts in the transepts of the Minster, that some of the same hands that were employed upon that magnificent building, were also concerned in the erection of this more humble, but not less beautiful, little church; and consequently the tradition may not be wholly without foundation.

Gent, in his "History of Ripon," gives currency to the same tradition; and an extract from his work may not be without interest, on this, as well as on other accounts.

'It was on the 7th of April, 1731, that I mounted my courser to seek the adventures I proposed; and was resolved to begin with viewing the little church at Skelton, about two miles north from York, because it is affirmed 'twas built with the stones that remained after the south cross of the Minster had been finished by the archbishop, Walter Grey. And indeed the south door seems to resemble that of the cathedral; alike adorned once with curious marble pillars, though now almost demolished. Three crosses are placed, one over the door, the second at the east, and the third at the west end of the church. On the top of it are two stately arches, designed perhaps for ornament; or if to contain the bells, they are not so used; those being in a little covered steeple. The largest of which has this motto: "Gloria in excelsis, 1677; Richard Maskell, Churchwarden:" the lesser, "Venite exultemus Domino." Around the church are handsome proportional butments, which, as they are strengthening and ornamental without, so no less within it is supported by strong and beautiful pillars. Near the altar are the remains of stone pots for the holy water. On the ground within the rails is an old stone with this inscription: Orate pro animâ magistri, Robert Lovell (I am informed he was Lord of Skelton, whose eldest son being unfortunately slain as he was playing at football, it devolved to others) qui obiit xxiv. die Julij, et Annæ uxoris ejus, quæ obiit xxv. die Martis MCCCCXXI."—*Gent's Ripon*, page 2.

That the church was completed before 1247, appears from an extract from Archbishop Grey's roll, as follows:—

'Confirmation of a donation to the chapel of Skelton.

To all, &c.—The donation which our beloved son in Christ, Master E. Hagitur, treasurer, of York, made to John de l'Edes, clerk of the chapel at Skelton; considering it to be agreeable and satisfactory to us, we confirm the same by our pontifical authority, desiring the said treasurer and his successors to pay annually the sum of 20d. to this same person.

'In witness whereof, &c., &c. Dated at Thorp, on the 6th day of the Ides of December, A.D. 1247, in the subscribed year of our pontificate.'

In the absence of any precise information on the subject, it may perhaps not be unfairly concluded, that the honour of its erection is due to Walter Grey, the archbishop under whose auspices the south transept of the Minster was erected, and who held the see from 1216 to 1255.

The church is built of a light-coloured limestone, and is in very tolerable condition, having been carefully restored from a state, in some respects, almost ruinous, nearly thirty years ago. Considering the want of information which at that period so generally prevailed upon such subjects, great credit is due to the young architect, Mr. Graham, by whom the restoration was conducted: and much honour to the memory of Mrs. Thompson, the excellent lady to whose timely munificence we are indebted for the preservation of this interesting edifice. It is true, that to the more advanced knowledge of correct church restoration which is now becoming generally diffused, a few of Mr. Graham's ideas of propriety may appear somewhat singular; and the modern pews and gallery with which the church is encumbered, are by no means to be commended; but at that time a proposal to restore the low open seats of our ancestors, instead of making so called "comfortable pews," would most probably have been scouted, and even now the idea is often barely tolerated.

Mr. Graham had the advantage of being able to employ men brought up in the school of the restorers of York Minster—men well skilled in the execution of every detail of Gothic art, and accustomed to it from their boyhood. To one of the most intelligent and careful of these, Mr. Taylor, he committed the restoration of the stone-work. I had the satisfaction, when last at York, through the kindness of Mr. Sharp, architect, a personal friend of Mr. Graham, of meeting with Mr. Taylor, now a very old man; and from the conversation I had with him, I feel confident that nothing would have induced him to deviate from his model in the work entrusted to his care; and that the accuracy of his restoration, where it affects the character of the work, may be fully relied on. The repair of the church was begun in 1814, by the celebrated Rev. Dr. Buchanan, who was son-in-law to Mrs. Thompson. He commenced with the roof, and the whole work was completed in 1818, at a cost to that lady of about 1,000*l.* The roof was formerly covered with tiles, but it is now slated with Westmoreland slates, the colour of which harmonizes very well with the building and the surrounding scenery.

* Architectural Illustrations of Skelton Church, Yorkshire. By Ewan Christian, architect. George Bell, Fleet-street: 1846.

Termination of the Strike.—We have elsewhere announced that the strike at Birkenhead was at an end, and we are extremely glad to say that the struggle has also ceased in Liverpool. The master masons have resolved to yield the 27*s.* per week to the men, and half an hour refreshment time each afternoon.—*Liverpool Standard.*

IMPROVEMENTS IN THE ELECTRIC TELEGRAPH.

A Washington correspondent of one of the Philadelphia papers, in a communication dated 6th of June, gives an account of Professor Morse's electric telegraph, from which it appears, that by machinery he has already invented, he can cause to be imprinted, at least 120 characters per minute. "Let us," says the writer, "allow, to the different European systems, for any improvements they may have made within the last year, that they can give double the quantity of intelligence which they claim to send in a minute, and the amount will stand thus:—

Prof. Morse's (American)..	100	per minute.
Bain's (Scotch).....	50	,,
Wheatstone's (English) ..	30	,,
Bregnet's (French)	12	,,

and we have in figures, at a glance, and with all the advantages allowed in favour of the foreign telegraphs, the decided superiority of the American."

"By the way," observes the writer, in conclusion, "it was announced by the papers, a few days ago, as a *recent* discovery, that the professor could communicate, at intermediate places along the line, without interrupting the line of communication. This is no *recent* discovery. The professor, I am told, made an experiment in New York in 1842, by which he shewed that thirty instruments, which he had at hand, could be operated along a line at the same time."

The only telegraph in Europe which *imprints* is said to be that of Mr. Bain, of Edinburgh, which, therefore, has this advantage in common with that of Professor Morse, that, while other telegraphs shew the letter but momentarily, on a little revolving dial plate, so that it is lost if not observed at the instant, those of Morse and Bain record them not only permanently but with greater rapidity, especially that of Morse—by which, even with one wire, and upwards of a year since, sixty signs, it is said, were recorded in a minute.

GAS STATISTICS.

At the last meeting of the Statistical Society a paper was read, giving a statistical account of the provisions for paving, lighting, and cleansing the streets and public places of the metropolis, by Mr. Joseph Fletcher, honorary secretary. From this it appears, that the existing gas companies have eighteen establishments, and employ a capital of 2,800,000*l.* in works, pipes, tanks, gasometers, and apparatus; the number of persons employed in this trade being about 2,500, besides 380 lamplighters, occupied in the care of 30,400 public lamps, which illumine the streets. The supposed advantages of competition in the supply of gas were said to be as fallacious as those of imagined competition in the supply of water. Ample interest for the capital (double, treble, or quadruple what is required for effecting the service) which has been laid down by rival companies in the same streets and districts, is inevitably levied on the public under terms of compromise between the several companies—terms which convert the fancied competition into a monopoly divided into shares, while the condition of the streets is greatly deteriorated by the multiplied occasions to remove the pavements, to get at such an excessive number of pipes for purposes of repair, &c.

PRIZES IN ARCHITECTURE AT UNIVERSITY COLLEGE.

The distribution of prizes at University College for the session 1845-46, took place on Wednesday last, the 1st inst., Mr. Grote presided. The following are the names of the successful candidates in architecture, under Professor Donaldson:—

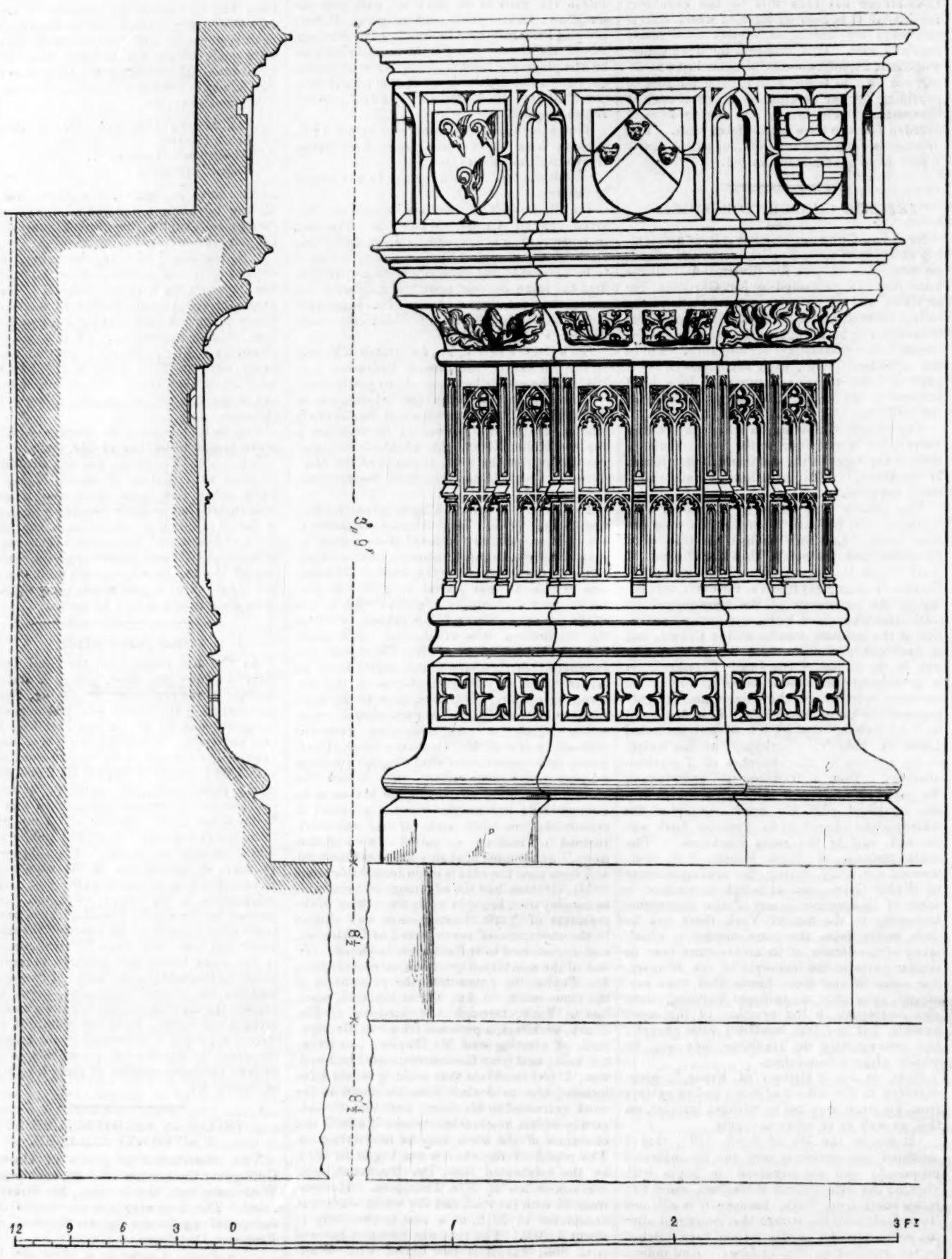
First Year's Course as a Fine Art Prize and First Certificate. — Benj. J. Benwell; second certificate Fredk. Lawrence.

Second Year's Course as a Fine Art Prize and First Certificate.—John Pollard Seddon; second certificate, Wm. Wood Deane.

First Year's Course as a Science Prize and First Certificate.—G. P. Boyce, and Fredk. Lawrence, equal; second certificate, B. J. Benwell.

Second Year's Course as a Science Prize and First Certificate.—T. G. D. Allason; second certificate, Wm. Wood Deane.

FONT, FROM HERNE CHURCH.



FONT FROM HERNE CHURCH, KENT.

This font, although rather late in the style, is a very fine specimen of perpendicular work; it is an octagon on plan, and on each compartment of the bowl is a shield of arms; first, the see of Canterbury; the second obliterated; third, France and England; fourth, three crescents within a bordure; fifth, three pelicans; sixth, three wings; seventh, three heads on a chevron; eighth, three escutcheons.

With the elevation are given a half section, so that the projections and contour of the various mouldings may be more readily understood. The church, situated at a short distance from Herne Bay, is an interesting example of the edifices to be found in our rural parishes, and will afford us materials for some remarks in an early number.

The village and church are well deserving a visit.

ILLUSTRATIONS OF ELIZABETHAN ARCHITECTURE.—(FROM CREWE HALL.)

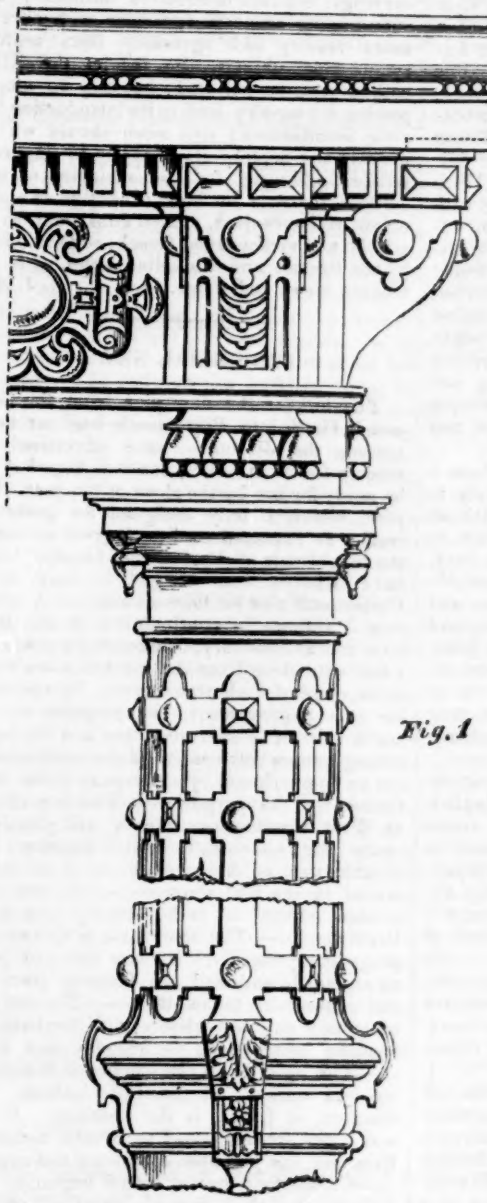
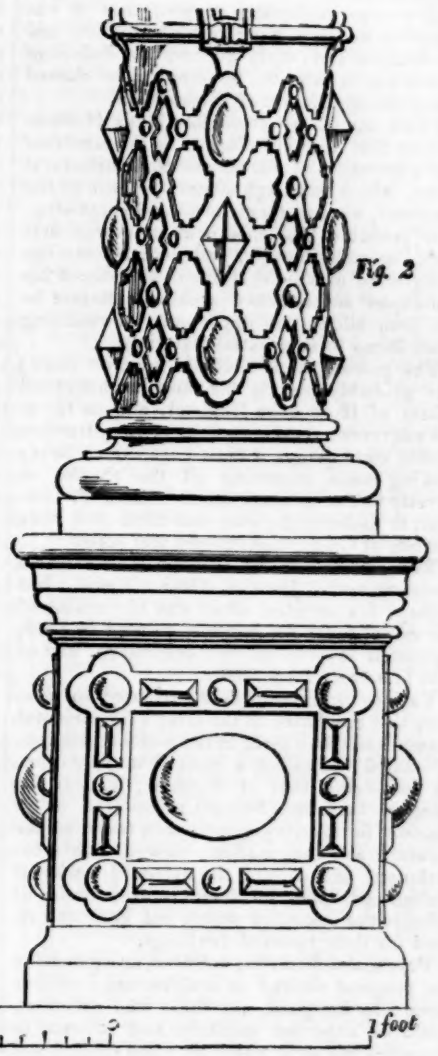


Fig. 1

Fig. 3

Fig. 2



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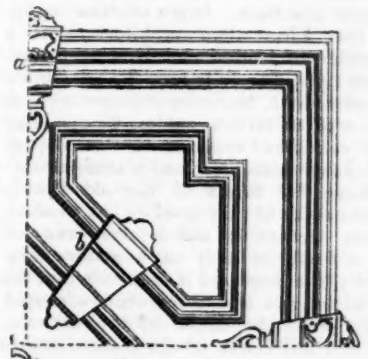

Fig. 4

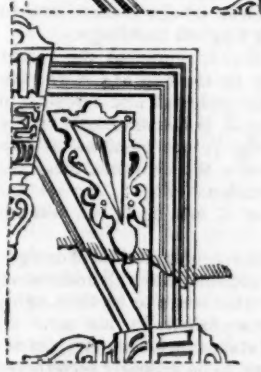

Fig. 7

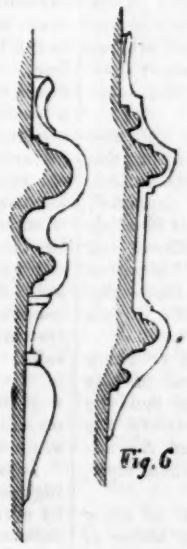

Fig. 5

Fig. 6

ON ELIZABETHAN ARCHITECTURE.

WITH ILLUSTRATIONS FROM CREWE HALL, CHESHIRE.

THERE is scarcely any inquiry upon which architects differ so widely as the question "What is the Elizabethan style?" One authority will explain his ideas on the subject by pointing out the buildings raised during the reign of Henry VIII., which another would designate as the latest Tudor style; another goes to Italy or Germany, or even to the north of Europe for the true type, and a third considers it altogether indigenous in England, and merely an odd mixture of the Gothic and Roman styles.

It shall be our object, in the following remarks, to contribute as far as may be to clear up the obscurity in which these contradictory

views have involved the subject. The Elizabethan, we apprehend, is that which immediately succeeded the latest Tudor style, as employed at Hampton Court and Hengrave. It commenced in the reign of Henry VIII., and continued during the whole period of that of James I., and was not lost till the commencement of the reign of James II. The style would be more properly called Jacobian than Elizabethan, as during the reign of James I. it arrived at its best period, and was so universally adopted that it was called in derision King James's Gothic; and by Walpole and others we find this definition given exclusively to buildings now classed under the appellation of Elizabethan.

There can be no doubt that Hans Holbein was the first who introduced, to the attention and admiration of our ancestors, architectural forms, which, although already known on the continent, were to them novel and surprising. It is probable that this new style was first made known by tapestry and pictures, into the background of which Holbein introduced his arabesques and enriched archivolts, before he had been allowed an opportunity of realizing these forms in substantial materials.

The gateway at Whitehall (now no more) was probably among the first architectural efforts of Holbein in England, and, as far as the engraver's representations of this structure enable us to judge, it must have been a heavy looking mass, requiring all the charms of novelty to excite admiration. Admired, however, it undoubtedly was, and from that time the fate of Gothic architecture was sealed.

The small portal of William Horne was a more successful proof of Holbein's skill; but perhaps his proudest effort was the ceiling of the chapel royal St. James's, painted in 1540, a proof of taste in interior decoration, and of skill in architectural forms.

Various circumstances contributed to promote this revolution in the arts; a fundamental change had taken place in the national religion, calculated to awaken a spirit of investigation, by conferring that of freedom; a taste for classical literature became substituted for a passion for military glory; men travelled for pleasure and information; viewed with astonishment and delight the splendid works of Italian art, and, on their return, could ill tolerate the mansions which had hitherto sufficed for their paternal dwellings.

Practical difficulties, however, arose to delay the progress desired in architecture: neither those who designed, nor those who executed, could be expected suddenly and at once to renounce the style which they had studied and acquired from their fathers, and which alone they understood; and, of course, the *amateurs* of those days were compelled to seek the aid of foreign artists, in order to gratify their newly acquired taste. Besides Hans Holbein, of Basle, the name of John of Padua has been handed down to us as a state architect in the reign of Henry VIII., and that of his immediate successor. Thorpe, Holt, and others, succeeded; and in a comparatively short time examples of the Elizabethan style were scattered all over the country.

It is not necessary here to enter into any critical examination or comparison of the works of the various masters of this period. The Paduan architect, as might be expected, exhibits much less impurity than his English followers; for his work, in fact, differed but little from the *cinque cento* style of his native country, as will become apparent to those who compare Longleat with portions of the Doge's palace at Venice.

Another description of artists and workmen were likewise extensively employed in this country; these were the Germans and the Dutch, to whom with greater certainty the impurities in the Italian model, and the enrichments peculiar to the Elizabethan style, may be referred.

A similar transition took place in other countries in Europe, although the states of France and Italy were in advance of us, and the struggle between the old and new manner commenced earlier with them.

In France this transition began under Francis I., and the style which the French antiquaries designate as "*la renaissance*" was the result. This style differs in many respects from *our* renaissance; we have several examples of it in this country, especially in the town and about the neighbourhood of Cambridge.

When classic art and classic literature began to dawn in Europe, their earliest rays were caught by the lineal descendants of ancient Rome, and, as a writer on this subject has remarked,* "the Italians were the first to apply themselves to the renewed study of the style of their forefathers." Like the dawning of a tropical sun, the first rays of light were followed by almost meridian brilliancy. The *cinque cento* appeared full of beauty and grace, and, in its best examples, offering few traces of the forms of Gothic art. Very different was the transition style of Italy from the Elizabethan or transition style of England. With no classic authorities at hand to guide us, with no specimens of Roman magnificence to admire, study, and imitate, we were left to the wanderings of our own imaginations, feebly lighted in our path by the few and disturbed examples of would-be classic art implanted upon our soil. The result was such as might be expected from the imperfectly directed efforts of a genius, nevertheless strong and original, since amongst much that is grotesque and eccentric, we yet perceive a grand and masculine character.

An age and a country that could produce a Bacon and a Shakespeare were not likely to prove contemptible in architecture. With all those minor defects, which we may allow to exist in the immortal works of our great bard, we yet recognize in those works an irresistible strength of spirit, that defies criticism, and strikes dumb the critic; and although England was not fortunate enough to find at this juncture a Shakespeare in architecture, yet can we point to many examples of the art, even at that period, fraught with much of the true Shakespearian spirit, poetic invention, and majestic grandeur.

In our Elizabethan style, the separate works of the Italian, the German, or the English artist, can easily be detected. Their works have each strongly marked characteristics. In the Italian, the details are pure, the proportions correct, and the ornaments better designed and executed. A good specimen will be seen in the screen in the Great Hall of the Charter House. The fire-place in the same room is by a Dutchman, in this style; the ornaments are vulgar, the proportions heavy, and the mouldings few and clumsy. The entrance to the Temple, opposite Chancery-lane, belongs to this class.

The work of the English artist exhibits not quite the elegance of the Italian, nor the rudeness or strongly-developed forms of the German—though it gives evidence that both foreign styles have been diligently studied. The engraving annexed to this article is given as a specimen of this class. It is a mistake in supposing that Elizabethan architecture is a mere medley of Gothic and Roman forms. When the style was fully formed, no Gothic details existed in it. Moreover in its picturesque exterior, with its turrets, gables, &c., it may even be considered superior in this respect to the Italian, which presented a straight outline. Some few forms of the old Gothic house were retained; the oriel or bay window, a peculiar feature in old houses, was too especial a favourite with our ancestors to be discarded; this rendered it necessary that the old mullioned and transomed window should be used. Few specimens of the German window and still fewer of the Italian, are to be found in our old English buildings.

Figs. No. 1 and No. 2, represent the lower order of the screen in the hall at Crewe, the column between the pedestal and frieze is 6 feet in height. Fig. 3, is the ornament in the soffit. Fig. 4 and fig. 7, are portions of two of the panels between the columns, these are well deserving attention. Fig. 5, is a section on a larger scale at *a*, and fig 6, is a similar section at *b*.

In conclusion, this singular method of designing deserves to be examined and well understood by every architect who seeks to be thoroughly informed and accomplished in his art. Its complex forms and elaborate ornaments, its defects and its beauties, to be properly recognized and appreciated, should be studied with a mind unbiased alike by the tendencies of a previous education and the indiscriminating caprices of fashion. But whatever merit the style may appear to possess, it is not desirable that it should become extensively adopted.

For the parsonage-house, the rural and sequestered villa, amidst coppice and garden grounds, the Elizabethan style is not only admissible, but in accordance with the *genius loci*: its quaint gables, fantastic pinnacles and pendants; its intricate parapets and grotesque carvings, connect themselves intimately with surrounding scenery, and form a picture far more readily and agreeably than uniform symmetrical objects. So far let the Elizabethan style be followed; but may no morbid passion for novelty lead to its introduction into civic architecture; still more should we deprecate and deplore its adoption to important public buildings; for the majority of such edifices, there is no style of design so appropriate, so convenient, and so consistent, as the stately and symmetrical Greek, so far modified by the Roman and Palladian styles, as to suit modern views and wants. C. J. R.

* Mr. Sidney Smirke, "Archæologia," vol. 25, p. 227.

PROVINCIAL NEWS.

The bill for the new pier from the Commond Hard into Portsmouth harbour being passed, the directors have advertised for tenders for its erection, and it is hoped it will be ready for use by the close of the year. This pier, which is only designed for passenger traffic, is expected to be of great service to the inhabitants of Portsea and Landport, who have hitherto been obliged to land at the Portsmouth pier or take a boat.——A row of new buildings in continuation of the Blueboar row at Salisbury, is about to be erected in a line extending from the market-place to the further end of Fisherton-street. To make way for this improvement, the property on the north side of Fisherton-street and the intervening houses between it and the market-place are to be purchased by a company about to be formed for the purpose.——The new church at West Fordington, Dorset, will shortly be ready for consecration.—— Another new church, that at Aldborough, is to be consecrated on the 10th proximo.——A new independent chapel is to be shortly erected at Brentwood.——The new works at Cromer are progressing rapidly. Besides the new jetty, an esplanade and wall are forming from one end of the town to the other.——The building of the new national schools at Willenhall, was formally commenced on Monday last week. ——The new Wesleyan Chapel at Knottingley was opened on the 11th instant. Mr. Simpson, of Leeds, is the architect. It will seat 1,100 persons.——The British School at Evesham, has just been completed and opened. ——Chesterfield has at length begun to participate in the onward impulse of improvement. Many new streets have been formed, and the town, in fact, considerably enlarged. A large iron furnace is in course of erection, and this once dull and stagnant town is likely soon to become one of the busiest in the county of Derby.——The new church of St. Paul, at Morton, in the parish of Gainsborough, will be consecrated on the 3rd proximo by the Lord Bishop of Lincoln. ——The Duchy of Lancaster having liberally provided a site, near the new schools, in the district of Etruria, in the Staffordshire Potteries, a church for the district is to be erected at an expense exceeding 2,000*l.*, of which 1,200*l.* is calculated on from the Diocesan and other societies.——Elworth Church, at Sandbach, was consecrated on Tuesday before last.—— The first stone of St. Paul's Church, Sculcoates, was laid last week, on Friday.——The Liverpool Sanatory Bill passed the Standing Orders Committee of the Lords on that day. ——The erection of the Birkenhead dock warehouses has been commenced.—— The foundations of a new Roman Catholic college and church have been laid within 2½ miles of the Cathedral of St. Asaph. It is rather remarkable, that the Roman Catholics are thus, as it were, appropriating to themselves the very bishopric which the Government has been seeking to abolish.——The works on the Severn are approaching completion; and the belief of the engineers and contractors is said to be, that the six feet depth from Gloucester to Stourport will be attained by the end of the present summer; and if so, within the three years specified by the Parliamentary evidence as requisite to the completion of the works. The weirs and locks have long been finished, and the dredgers are raising 1,000 tons of soil on an average daily.——A practice worthy of

general imitation has been adopted by the Glasgow Police Board during the late hot and dry weather, namely, the employment of a portion of the fire brigade in scouring out the dirty courts and alleys of the city with their engines, and in watering the streets; thus effectually cleansing and cooling the whole city, to the greatly increased comfort of the citizens at large.

LIVERPOOL TOWN-HALL DECORATIONS.

The *Liverpool Mail* speaks highly of the decorations now being applied on the staircase of this building. It says:—"By some process, the invention of Mr. Ingram, decorative artist, of Birmingham and London, who is now, with about twenty of his own workmen, carrying on this work, the walls, which are of the usual description, and pillars, are made to represent the finest polished marble, and are susceptible of receiving a polish of great brilliancy. The style of the building being Italian, the whole of the decorations are of course made to correspond. The dome has been very much enlarged, from the peculiar manner of finishing it, in apparent size. The moulding has been etched with gold colours, so as to produce a China-like effect, and to give the idea of height and expanse. The common glass has been removed, and, by the introduction of ground glass, a soft and mellow light is thrown upon the staircase. The walls are enamelled in imitation of Sienna marble, and the columns are finished in Jasper marble. So perfect is the work, that the best judges acknowledge the imitation to be perfect, and, to the untutored eye, the deception, we are sure, would be complete. On the window cases and framing are painted the arabesques from the Vatican—the arabesque style being strictly observed, nothing which has life being introduced. The door cases will be finished in imitation of statuary marble, highly polished, and the Jasper pillars stand out in bold relief from the Sienna and statuary marble. The whole of the ornaments in the door cases and under the dome, the friezes, cornices, &c., are richly etched with gold. This enamelled style differs much from that of scagliola, inasmuch as that great transparency and sparry character, peculiar to marble, can be produced." We must see the work ourselves before we join in the praise.

THE ART-UNION QUESTION.

The consideration of Mr. Wyse's Bill is again postponed, in consequence of the ministerial disarrangement. Wednesday next is named for it.

The current number of *The Topic* combats the objections urged in some few quarters against Art-Unions, with considerable ability and success. The following is the close of the article:—

"We cannot imagine that the legislature will venture to oppose the universal feeling of all classes in their favour; but if they should, there need only be 'an Art-Union League' formed, and they would ultimately grant what they should not now ungraciously withhold. They have three powerful reasons for promoting Art-Unions; the encouragement of the public taste to wean the people from races (supported by Derby lotteries) and other brutalising sports; to gratify the laudable inclinations of the thousands who are subscribers to Art-Unions; and last, not least, to afford to a body of refined and talented men, the artists, the assurance that their pursuit shall have somewhat of the fixity of a profession, and not the precarious and degrading incertitude of a conjurer's calling. Men of letters have long been relieved from a slavish dependence on an ignorant and insolent aristocracy, and surely this body of intellectual labourers have a right to demand that they shall not be denied the opportunity of also being emancipated. We cannot but fear that the opposition to such institutions has a touch of aristocratic self-sufficiency, and that a fear lest mental luxuries should be degraded by being shared with the people, induces many to oppose all that can disseminate the arts. It must still be in the memory of many when the dissemination of piano-fortes and silk gowns amongst the middle classes was resented as an infringement of the rights of gentility.

We have endeavoured thus to examine the pleas raised against Art-Unions, and really cannot, after a careful examination, find any validity in them. We admire art for art's sake; are ready to acknowledge it is a great means of humanizing, and that it may be applied to assist in the elevation of the sentiment, and in the purification of the tastes; and so regarding it, should look with considerable anxiety towards any institution likely to pervert its natural tendency; but in Art-Unions we can only see most important aids—highly beneficial because likely to be permanent, as arising spontaneously out of the circumstances and manners of the nation, and the untutored inclinations of the people. Art-Unions have solved the question, most puzzling to philosophers, 'how to make the people take a genuine interest in Art;' and if for no other reason, they deserve, as they have, the support of the liberal, the tasteful, and the intelligent portion of society."

THE PUBLIC BATH MOVEMENT.

It is gratifying to notice the progress of this improvement in town and country; every week we find it striking root, and spreading out, in some new direction. At a meeting of the Town Council of Chester last week, a site was offered for the erection of baths for the operative classes, and the mayor and other members of the council, pledged themselves to promote their establishment, though being without surplus funds, the council could not make a grant of money.——At Luton, free use of the swimming baths on Saturday has been granted to the humbler classes.——Arrangements are in progress for laying the first stone of the Birmingham baths with great éclat.——The bathing and washing establishments of the north-west district of London, are about to be opened for use. The New River Company have not only granted the site at the base of their reservoir at a nominal rent, but have undertaken to supply water gratuitously for the first six months.——In the Commons on Monday last, Sir G. Grey's bill for the establishment of public baths and wash-houses in large and populous towns, was read a first time.

INSTITUTION OF CIVIL ENGINEERS.

RESISTANCE TO RAILWAY TRAINS—ARCHES.

June 9th, 16th, and 23rd. Sir John Rennie, President, in the chair.—The discussion upon the paper by Mr. Harding, "On the resistance to railway trains at various velocities," was continued throughout the two former of these evenings, and assumed so wide a field, that it would be difficult, in our limits, and without the aid of diagrams, to give an adequate idea of the opinions of the several speakers.

The chief point in discussion was, the statement by one party, that the resistance to a passenger train weighing about 30 tons, at a velocity of 60 miles per hour, would be upwards of 50lbs. per ton; whilst it was contended by another party, that it had been demonstrated to be not more than 18lbs. per ton; this latter assumption was, however, qualified by a statement, that although such a result had been obtained under particular circumstances, and had elsewhere been used as the basis of an argument in the examination into the merits of the broad and narrow gauges, yet it was not meant to contend for its absolute accuracy under all circumstances. The experiments by the committee appointed by the British Association, and those by Mr. Stephenson and Mr. Scott Russell, were adduced, on the other hand, as confirming in a remarkable degree the results obtained by Mr. Harding, and given in the paper. The resistance on railways being analysed, was contended to be composed of the friction of the wheels and axles, which remained constant at all velocities, and the frontage resistance, which increased as the square of the velocity. But there was also shewn to exist a large remainder of resistance, which it was important to consider the constitution of. It appeared that this remainder increased in the direct ratio of the velocity, and not as the squares. The term "concussion" had been used to designate this cause of the expenditure of power, as it was contended that in the passage of a train, a motion resembling that of a wave was communicated to the comparatively inelastic earth. This vibratory action must be caused by an expenditure of power; and it was contended that the striking of the flanges of the wheels against the rails, the flexure of light rails, insecure chairs and fastenings, unstable sleepers, the action of the springs, and even the motion of the passengers in the carriages, all absorbed power, causing resistance; and it was argued, that the remainder sought would be found in these circumstances, which had not been generally considered by experimenters. This element of resistance, also, increased directly as the velocity, and not as the square. The effect of the lateral resistance of even a light side wind upon a long train was shewn to be excessive; and it was said it had been given in evidence, that on several occasions seven engines had been required to arrive at a moderate speed with a train of 100 tons in a gale of wind acting laterally. The experiments on the resistance to trains descending inclined planes by their own gravity, as tried for the British Association, were quoted as being still the most conclusive record. It was, however, shewn that the atmospheric system afforded the best opportunity for testing absolutely the resistance, as by observing accurately the vacuum in front of the piston, as shewn by the barometer, and the velocity of the train, its positive weight being known, and the air being presumed to enter behind the piston at the atmospheric pressure, and allowing 100lbs. for the friction of the piston, a most perfect dynamometre existed, and all the attendant circumstances being stated, accurate results might be arrived at; it was therefore suggested that as such great discrepancy of opinion existed on the subject of resistance (varying between 18 lbs. and 72 lbs. per ton), an application should be made by the Institution to the Croydon Railway Company, for permission to try a series of experiments to settle the question on a certain basis; and that this investigation should be restricted simply to the scientific inquiries as to resistance, and not touching at all upon the commercial or the comparative value of the locomotive and atmospheric system of traction, they being foreign to the views of the Institution.

The first paper was a description by Mr. Biddes of his swing-bridge over the Wensum at Norwich. The bridge was described as covering, by two spans of 45 feet each, 85 feet of the river and a portion of the land on the Norwich side. It was so constructed that turning upon a centre-pin fixed upon piles, the two sides opened simultaneously; thus balancing each other, and giving great facility for opening and shutting it for the uses of the navigation and the railway traffic. The whole structure, the details of which were elaborately given with the method of building, was of cast and wrought-iron. It weighed 347 tons, and was manufactured from Mr. Biddes's designs. The paper was illustrated by a model presented by Messrs. Grissell, and by a set of drawings by Mr. Cheffins.

A paper was afterwards read "On the stability of arches, with practical methods for determining the proper forms of their sections," by Mr. G. Snell. This paper consisted of four sections with an appendix. The first section treats of the general conditions of stability in arches. The second discussed the conditions of stability of an arch composed of materials of infinite strength to resist compression. The arch being similar and similarly loaded on either side the crown, and one of the points of rupture being therefore assumed to be at the crown.—The third section shewed how the results of the investigations in the second section might be applied to actual practice, or to the case of an arch of limited strength to resist compression, which was actually the condition of the stronger material, and which greatly affected the results of the problems in the former section, based on the hypothetical conditions of infinite strength of materials. This section shewed how the form of section of an arch might be designed according to the strength of the material of which the arch was to be composed, but in this section, as in the second, the arch was supposed to be similar, and similarly loaded on either side the crown, and one point of rupture was assumed to be at the crown. The fourth section investigated the conditions of stability of an arch, either similarly or not similarly

loaded on either side of the crown of the arch, and the various points of failure were determined without the assumption of one of them. By means of this problem the proper form of action might be designed for an arch to be subjected to any number of pressures acting in any position and direction. Thus the effect of men walking over a vaulted ceiling, or any other pressures in vertical directions, or the effect of the thrust of other arches, or of pressures in oblique directions, might be counteracted by the particular form of section arrived at by the application of the method described in this section. The author followed the principle of Professor Moseley, and applied them to the proof of a tentative process, which was advanced by M. M. Lauri and Chapeyron, and proved by an abstruse method requiring the aid of the intesimal analysis on principles entirely different from those of Professor Moseley. The investigations and problems in this paper did not require the application of algebraic analysis either in their proof or practical application; no more than a knowledge of the first laws of statics, and the leading principles of geometry, was required either to work the problems or to undertake the reasoning on which they were founded. The appendix contained some observations on methods of finding the centre of gravity without algebraic calculation; and the paper was illustrated by a series of diagrams, which rendered the problems clear.

SIR JOHN RENNIE'S THIRD CONVERSAZIONE.

The third conversazione of the season given by Sir J. Rennie to the members of the Institution of Civil Engineers and his friends, was held on Saturday evening, June the 27th, and was numerously attended. Many additions of interest were made to the collection of models. Among them we may mention Fairbairn's very ingenious method of fastening boiler rivets by pressure instead of the old method of hammering. Captain Dowell's plan for avoiding the inconvenience of the difference between the broad and narrow gauge, in the transport of goods on railways, by having cases of such dimensions, that they should accord with the narrow gauge placed end ways and be readily transferred to the broad gauge travelling sideways. These placed upon trucks with rollers in them, would enable a considerable quantity of goods to be readily exchanged from one gauge to another. Some interesting modifications of the electric telegraph, by which any signals could be transmitted from a central station to any of the branch lines or stations without necessarily being sent through either of the main termini. This ingenious arrangement was governed by a small instrument called a deflector, which broke or established the current apparently with undeviating regularity.

Professor Wheatstone's stereoscope, and Perigal's instrument for describing curves and various other figures of the greatest variety, and apparently by the most eccentric, yet most perfectly regulated action, combining the effect of six circular motions. Leake's specimens of pressed leather ornaments were particularly admired, and it was gratifying to find this useful invention being so greatly improved as it has been lately.

RUINS IN ATHENS.*

In those tranquil undisturbed scenes, where the impressions produced by outward picturesqueness of form give place to reflection, the ruin becomes a delicate allusion to the frailty of human existence. This is, at least, the moral side of the subject which should be most prominent in the representation of a ruin in a classical composition, and which, next to its advantages as a beautiful object, constitutes one of its chief sources of interest. In a picture, it is necessary to give up the greater part of those associations which render ruins objects so valuable to the antiquarian; they must cease to point out, in a special and distinct manner, the character and customs of the nation to which they belonged, the period at which it flourished, and its connection with other people. All these circumstances cause the thoughts to wander beyond the limits of the scene, and detract from its unity. At Tiryns and Mycene, near the gulf of Nauplia, there are ruins in Hellenic masonry, the rudeness of which refers them to the remotest periods of Grecian history; whilst their comparison with the finished and elegant monuments at Athens, brings down these last to a time, as it were, little remote from our own. The walls of these two cities are formed of huge blocks of stone, imperfectly shapened to each other, and uncemented: and the subterranean vault near Mycene, considered to have been the treasury of Atreus, and also designated as Agamemnon's tomb, though more perfect in its design and work, presents in its singular character, and the massiveness of its construction, a style equally primitive. In both cases the surrounding prospect is perfectly barren: no bushes deck the harsh nudity of the walls, no shrub casts a doleful shadow on the mausoleum. But in a drawing of monuments of this kind, these circumstances, unpicturesque as they are, could not be omitted; or the spot would lose its peculiar character. The representation of them must, therefore, be confined to the form of a mere diagram, or illustrative sketch, having for its object the style of the ancient monument and the peculiarities of its site. It is an interest, which, to be fully partaken of, should be quite distinct from that which a finished picture affords, and which is derived from a source too different to admit of their being both embodied into one sentiment.

In Greece, more than in any other country, the modern art might be best expected to associate and harmonize with the ancient. The prevailing feeling there, is, that of reviving the nationality of ancient Greece—of establishing a close and patriotic connection between its former splendour, and its present prosperity and political influence. This spirit shews itself in the adoption of the language of the ancient Greeks, of their dramas, coins, &c.; but, fortunately for the arts, it has not been allowed to encroach upon the purity of the ancient monuments. At Athens, no attempt has been made to embody these memorials of the past in the rising city. Their simplicity and chasteness remain undisturbed by the proximity of any modern edifice. These have been kept at a respectful distance; and, in their modest retirement, exhibit no pretensions to imitate the sublime prototypes of architecture, which the nation prides itself in possessing. This forbearance is the more striking, since the same elements which produced the majestic Temple of Jupiter and the Parthenon, are still had recourse to for the ornament of the modern city.

The little apparent connection between modern Athens and the monuments which adorn the neighbouring heights, shews the impossibility of forming any close union, whether architectural or modern, between the two; and of raising the splendour of the modern city upon the venerable remains of her former greatness. How different the allusions to the past, which Nature has, as it were, accidentally brought about! The rocks of Mount Pentelicus, still rough from the strokes of the axe, and its slopes covered with the fragments scattered by the chisel, impress forcibly the time when the columns of the Olympian Temple, or the beautiful friezes of the Parthenon, were cutting out of the quarry, or making their way down the rugged paths of the mountain. You might almost fancy, by turning a projecting corner, or by penetrating into the ravine which forms a natural footway up the ascent, to see the busy slaves and their robed masters; indeed, all the life and bustle which the erection of a stupendous monument of art would spread into the very passes of the mountain. Some large blocks lying prostrate for immediate use, and numberless chips glaring white from their recent removal, draw still closer together the union between the present and the past, which appears so unexpectedly in this retired recess.

The rich yellow tint so conspicuous in the marble monuments about Athens is not one of their least remarkable features; the decomposition of the marble has taken place at the very surface only, and the brilliant colour of this light and superficial envelope makes it appear, that the golden rays which in this beautiful climate have for centuries risen and set upon these ruins with almost unvarying splendour, had at length left a stain upon the marble, bright and pure as the light which plays about them.

Generally speaking, ruins present less variety of colour than the rock whence the material was taken. The roughness of their surface, which allows the water to escape down the furrows and gives speedy effect to the drying action of the wind, prevents the formation of the green tints which are the result of moisture; and which are more abundant on plastered walls or smooth stone, over which the moisture spreads.

Those monuments at Rome, the materials of which are indifferently rough and smooth in various parts of the edifice, present considerable variety of tint. Some indeed, having been patched up at different periods, present a picturesque contrast of the brown and lighter colours; but the numerous brick buildings near the forum in the Campagna do not shew much variety, and few traces of green, excepting where exposed to damp; thick foliage, however, decks their summits and projecting parts.

The brick masonry of the palace of the Cæsars and of other similar ruins, is of a dull warm grey, nearly uniform; but the upper part of the walls has become brown. The exterior of the Colosseum, and such other buildings as are externally sheathed with a covering of stone masonry, have more or less a yellowish tint; but scarcely present a distant resemblance to the gilded appearance of the ruins at Athens.

* From a very interesting work "On the Elements of Picturesque Scenery, considered with reference to Landscape Painting. By Henry Twining, Esq. Printed for private distribution: 1846."

Correspondence.

CEDAR FOR BUILDING PURPOSES.

Sir,—Observing in a letter signed "J. E." in your last number, a proposal to introduce foreign cedar for building purposes, will you allow me to make your valuable publication the medium for inquiring if "J. E.," or any of your correspondents, can furnish any data from which to calculate its relative strength, if used for the purposes to which oak is usually applied in buildings, also the names of the principal importers.

Is the price stated 5d. per superficial foot, an inch thick? if so, I suppose it can be supplied alongside (in the Thames), at something less than 5s. a foot cube. Can any correspondent speak as to its liability to warp or shrink?—I am, Sir, &c., Ædificator.

Pimlico, June, 1846.

Miscellanea.

Carpenter's Bill in 1742.—The *Chelmsford Chronicle* says:—A correspondent has sent us the following copy of a carpenter's bill, for work done upwards of a century ago:—

Jvly ye 15, 1742. A bill of carpenter's werk don for Johnadab Bvtcher.

	£.	s.	d.
15 for 48 foot of Sell	01	04	00
for a day of 2 men.....	00	04	00
16 for ½ a day ditto.....	00	02	00
17 for ½ a day ditto.....	00	02	00
for 6 foot of qverter	00	01	9
for 27 foot of paling	00	15	00
23 for a day of a man.....	00	02	00
for 12 6-foot battons.....	00	06	00
for 4 12-foot ditto.....	00	04	00
24 for a day of a man.....	00	02	00
for 2 winddow shass	00	02	9
	03	05	6

Extraordinary destruction of Houses.—Another of those astounding conflagrations, which, in the nineteenth century, appear to be chiefly, though not altogether, confined to the American side of the Atlantic, has just occurred at St. John's, Newfoundland. Two-thirds of the town have been destroyed, comprising two whole streets, each fully a mile in length, besides detached buildings, and extensive stores on the wharfs. Numerous public edifices are amongst the number. Twelve thousand individuals are houseless, and at least a million of money consumed.

The late Mr. Haydon.—A meeting has been held to devise means for providing for the widow and daughter of this unfortunate artist, and a subscription commenced to raise a fund. The Queen has granted a pension of 50*l.* per annum to Mrs. Haydon.

MODEL RAILWAY IN FRANCE.—It seems that Arles, the place where Roman structures 1800 years old exist in such perfect preservation, is now prompting French engineers to similar exertion. The following is a short extract of the projects for the present buildings:—The viaduct of the railway of the Durance river will have a length of 493 metres between the abutments, besides 20 metres of abutment at each side, which will give it an absolute extension of 533 metres. Its height is to be 9.36 metres, computed from low-water mark to the level of the rails; its breadth 8 metres between the parapets. It is to be supported by 20 piers of 3·50 metres thickness, combined together by 21 elliptic arches of 20 metres opening. The elegance of the piers, the gracious opening of the arches, and the imposing mass of the viaduct, will make it one of the finest structures of the whole line. After this immense art-structure, the thing next worthy of admiration is the cutting of the rock of la Roque—an immense mass of stone, which was to be cut through from top to bottom to the extent of 125 metres by 25, which yielded a mass of 42,000 cube metres of debris of rock. Especially also is to be noticed the nicety of the nineteen cottages of the guards of the line, between Arles and the Durance. To each a little garden has been annexed, to employ profitably the leisure of the men and families. Follows then the monumental viaduct of the Rhone, which will connect, by the way of Tarrascon, the Avignon line with that of Bordeaux to Cette. This gigantic structure is already begun. It is only 370 metres from the suspension bridge of Beaucaire; thus two of the finest and hugest modern structures will be erected at a short distance from each other. The activity on the railways in the south of France is now so great, that in the arrondissement of Aix alone 1390 workmen are employed.—*Mining Journal.*

GOTHIC VERSUS CLASSIC.—Immediately on going out, next day, says Dickens, in his "Pictures from Italy," we hurried off to St. Peter's. It looked immense in the distance; but distinctly and decidedly small, by comparison, on a near approach. The beauty of the Piazza in which it stands, with its clusters of exquisite columns, and its gushing fountains,—so fresh, so broad and free and beautiful,—nothing can exaggerate. The first burst of the interior, in all its expansive majesty and glory,—and, most of all, the looking up into the dome,—is a sensation never to be forgotten. But there were preparations for a Festa: the pillars of stately marble were swathed in some impertinent frippery of red and yellow; the altar, and entrance to the subterranean chapel, which is before it, in the centre of the church, were like a goldsmith's shop, or one of the opening scenes in a very lavish pantomime. And though I had as high a sense of the beauty of the building (I hope) as it is possible to entertain, I felt no very strong emotion. I have been infinitely more affected in many English cathedrals when the organ has been playing, and in many English country churches when the congregation have been singing. I had a much greater sense of mystery and wonder in the cathedral of San Mark, at Venice.

SUDDEN BURIAL OF HOUSES.—An extraordinary circumstance took place on Sunday evening last, at Hateley Heath, West Bromwich—the total and immediate disappearance of three houses, in consequence of the thick coal having been got from under them. The houses were inhabited, but fortunately no lives were lost. About two hours before they gave way, a crack was observed in the middle house, but no noise or report was heard. About half past eight o'clock the middle of one suddenly fell in; an alarm was made, and as soon as the people could get out, the whole with a great crash, immediately sank down, the top of the houses being five or six yards below the level of the surface, and covered with soil. The width of the hole is about ten yards, and the length about thirteen. Had this occurred about two hours later, when the people had retired to rest, not one of them, it is thought, could have escaped. Notice to quit had been given three or four months before, but as they did not apprehend any danger, the tenants refused to leave the houses. They were lately purchased for the purpose of being pulled down.

THE EFFECT OF FREE-TRADE IN GLASS.—An example will serve to shew how the supply of an article may indefinitely increase without meeting the demand, and how the profit of the maker and the wages of the artisan may be found compatible with an indefinite reduction of prices. It is a comparison of the plate-glass trade in 1827 and 1846. It must be premised that in 1827 a ton of coals cost at the works 30s.—now only 13s. The difference in the price of pearlashes is almost as great. The chief difference, however, is the great improvement in the methods of manufacture, in the use of larger furnaces, melting pots, steam-engines, grinding and polishing benches. The result is, that whereas large plates were then made with great difficulty, they are now made with perfect facility; the manufacturers then kept a large supply on hand—now they can only supply their customers from hand to hand, and that with difficulty. Wages were then comparatively low; now, though of course not so much per foot, they are high. The prosperity of the trade has been progressive. In 1827, glass sold for about 12s. per foot, to the extent of about 5,000 feet per week. In 1844, for 6s. or 7s, to about 23,000 feet per week. In 1846, for 5s. or 6s., to about 50,000 feet per week, *exclusive of foreign glass.* There can be no doubt, then, in a few years the demand will increase, and the price fall, till every small tradesman has plate glass, not only in his shop, but also in his parlour, or even in his bedroom, with a great increase of his comforts and without much extravagance. Even at the present prices, at 5s. or 6s. per foot, builders are recommending the use of plate glass, by the argument that, in a few years, the want of it will be remarkable.—*Somerset Gazette.*

BABYLONIAN BRICKS.—The Rev. Dr. E. Hincks, in a letter read before the Royal Society of Literature on the 11th inst., says:—"I have ascertained, *beyond all doubt*, the nature of the inscription on the Babylonian bricks. It contains the name, title, &c. of the king in whose reign the bricks were made; not a form of prayer, as Grotefend pretends. Thus the date of the building is given. Now as it appears, from the short extracts given in Grotefend's plate from the great inscription of the East-India Company, that this contains the name and titles of the king who built the greater part of Babylon, and whose name is on the signing (?) of the bricks (the Biblical Nebuchadnezzar), and also the name of *another king of a different country*, and infers that this inscription does not contain a *ritual*, but an account of conquest or treaties,—it is perhaps of the same nature as the Bisitun inscription, and probably of *at least equal* importance. This has greatly increased my anxiety to obtain a copy of this inscription—permanently if possible, and if not, for a time, till I have looked over it. I entertain a confident expectation of being able to read and translate it. I have already the powers of the greater part of the characters on the bricks; and from the proper names of countries which, I presume, occur in the inscription, and from the Semitic analogies of many words, I should soon discover the rest."

NEW DOCKS AT SOUTHAMPTON.—The opening of the New Graving Dock, a structure from which great commercial advantage to the town has been anticipated, was formally completed on Saturday last. It has been built in about fourteen months by Messrs. Cubitt, at a cost of 60,000*l.* The superintending engineer was Mr. Alfred Giles. Its extreme length is 313 feet; width of middle, 78 feet; breadth of gates, 66 feet. At high-tide there is about eighteen feet of water. The dry dock is making rather slow progress towards completion. The tidal dock is now in active use, and its business is in daily increase.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For alterations to be done in the reading-room of the London Mechanics' Institution.

For the erection of a church at Portswood, near Southampton.

For the erection of a new workhouse in the parish of Gravesend, for the Gravesend and Milton Poor Law Union.

For the supply of an oval crown gasometer, of sheet iron, 28 feet deep, No. 13 gauge, with stays and chains for counter balance weights, for the Dawlish Gas and Coke Company.

For the occupation for 5, 7, or 10 years of a commodious and excellent brick and tile yard, kiln, mill, &c., near Taunton, with clay in great abundance, and of superior quality.

For cast-iron mains of 3, 2, and 1½ inch, for the Dawlish Gas and Coke Company.

For the erection of four cottages at Beccles.

For the valuation of the parish of Longford, in the Ashbourne Poor Law Union.

For the valuation of the parish of Hungry Bentley, in the Ashbourne Poor Law Union.

For the building and construction of a stone lighthouse on the site of the present Abbey Scar Perch, in the river Lune.

For the erection of a wooden lighthouse on the land between Crook Farm and Cockersand Abbey.

For the erection of a church between Highfield and Portswood, near Southampton.

For the sale of an extensive and useful builder's and carpenter's yard, with workshops, stock in trade and good-will, &c., at Colchester.

For the execution of a station and other works at Stratford, for the Eastern Counties Railway Company.

For lighting the City of Bristol with gas for seven years.

For the whole or any of the works required for the erection of a Catholic church at Chelmsford.

For the erection of a farmhouse at Glasbury, county of Radnor.

For the works of the Portsmouth Harbour Pier.

For the disposal of Wilson's Iron and Brass Foundry, Leicester.

For the repewing of the parish church of Sharnford, county of Leicester.

For taking off part of the roof of the church at Blaby.

For reroofing part of the church at Blaby.

For winning and breaking limestone, for a period of time, to be fixed by the trustees of the turnpike-road from West Auckland to Elishaw, in the county of Durham.

For laying broken limestone on the road from Elishaw to Woodburn Bridge, Durham.

For laying broken limestone on the road from Woodburn Bridge to Tongate, Durham.

For laying broken limestone on the road from Tongate to Brick Kiln, near Woodfords, Durham.

For laying broken limestone on the road from Brick Kiln, near Woodfords, to Stagshaw Bank Bridge, Durham.

For laying broken limestone on the road from Stagshaw Bank Bridge to Tinkler Bank Top, Durham.

For certain restorations and repairs of the church of Enderby.

For screening the battery at Willington.

For lighting fifty-two public street lamps with coal gas, in the town hamlet of Watford, including lanterns, columns, brackets, fittings, painting, &c. (promptly).

For making about 541 perches of a new intended road between Wexford and Carlow, Ireland.

For an extensive addition to the mansion-house of Drummuir, Scotland (extension of time).

For the erection of a large dining pavilion at Inverness, for the Highland Agricultural Society's cattle show (promptly).

For the erection of a district military prison at the barracks, Cork, Ireland.

For the excavation and construction of two gasholder tanks for the Canterbury Commercial Gaslight and Coke Company.

For the disposal of an old-established trade, with the machinery and implements of an engineer, near the East and West India Docks, and the river Thames.

For the erection of additional buildings required at the Salop Lunatic Asylum.

For the erection of a farm-house and outbuildings at Stetchworth Ley, near Newmarket.

For the disposal of an old-established ironmongery business, wholesale and retail, in one of the best towns in Suffolk.

For the erection of convalescent wards in connection with the Fever Hospital of the Union Workhouse of Kilmallock, County of Cork.

For the erection of a kitchen and washhouse for the Kilmallock Union Workhouse, County of Cork.

For works to be done at the Tullagh Church, County of Cork.

For works to be done at the Donoughmore Church, County of Cork.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Hampshire-terrace, Southsea: a large stock of timber, deals, stone, slates, ironmongery, paints, &c., with glazed sashes, panelled doors, ladders, &c.

At Knotting, Bedfordshire: about 1200 oak timber trees.

At Latchley's Wood, near Finchingfield, Essex: 300 oak trees, &c.

At the Sands, Leith: a cargo of yellow pine and birch, of large scantling, with several thousand deals and battens.

At Baltic-street, Leith: 165 logs Honduras, 140 Cuba, and 80 St. Domingo mahogany, with 49 tons rosewood.

At Inverary: a large quantity of growing and cut timber, chiefly larch and Scots fir, of great age and size, and excellently adapted for railway sleepers, house-building, &c. (postponed sale, now fixed).

At Wapping: the building materials of three houses.

At Westminster: the materials of nine houses.

At Oxford-street: some very fine specimens of stained glass, an altar-piece, formerly in the possession of Tippoo Saib, antique oak, &c.

At the Bull's Head and Anchor Hotel, Loughborough: several lots of building materials.

At the premises of the Workington Iron Company, at Workington, Cumberland: 150 to 200 tons bar iron, in lots; 75 tons ballast pig-iron, and 200 tons No. 4 Scots pig-iron; also various tools, furnace, plates, &c.

At Windsor: a large quantity of scaffolding poles, slates, tiles, fire-bricks, gravel, paving, and other materials, useful to builders, bricklayers, plasterers, road surveyors, and the building trade in general.

At Attercliffe Common: a quantity of building materials.

At Woodbastwick: 2000 ash, alder, and birch poles, 500 larch poles, &c.

At Strathmartine, near Dundee: 750 larch trees, fit for railway sleepers.

At Davis's Mart, 68, Mark-lane, London: the whole of the plant and materials of the Experimental Railway on Wimbledon Common, constructed to shew the working of Prosser's patent guide wheels, and comprising locomotive rails, &c.

TO CORRESPONDENTS.

"*B. & H.*" The parapet, strictly speaking, is distinct from the cornice. Much would depend on the wording of the specification. If the stipulation be "to restore the clerestory walls and parapet," the cornice must be considered as included.

"*J. B.*" (*Royal Medal.*) Apply to the Secretaries, 15, Grosvenor-street, Grosvenor-square.

"*H. Hill.*" Apply to the Secretary, in the Adelphi.

"*Llandilo Church Competition.*" Another subscriber complains of the length of time his drawings have been kept.

"*One of your Subscribers.*" We know nothing of the parties named.

"*Sound.*" We hope before long to direct our attention to the mode of constructing buildings with reference to sound.

"*W. D.*" Next week.

Received.—"C. M.," "W. P. G.," "Rev. J. B.," "W. R. H."

Books received.—"Chart, illustrating the Architecture of Westminster Abbey. By *F.* Bedford, jun." (Robinson, Fleet-street). "Patent Journal, No. 5." "Dolman's Magazine, July." "People's Journal, July." "Railway Register, July."

ADVERTISEMENTS.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced.

I. FARRELL, Secretary.
Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

SIR WILLIAM BURNETT'S PATENT for the Preservation of Timber, Canvas, Cordage, Cotton, Woollen, &c., from Decay.

TESTIMONIALS.

From THOMAS GRAHAM, Esq., M.A., F.R.S., L. and E., Professor of Chemistry, University College, London.

"After making several experiments on wood prepared by the solution of chloride of zinc for the purpose of preservation, and given the subject my best consideration, I have come to the following conclusions.

"The wood appears to be fully and deeply penetrated by the metallic salt; I have found it in the centre of a large prepared paving block.

"The salt, although very soluble, does not leave the wood easily when exposed to the weather, or buried in dry or damp earth. It does not come to the surface of the wood by efflorescence, like the crystallizable salts. I have no doubt, indeed, that the greater part of the salts will remain in the wood for years, when employed for railway sleepers or such purposes. This may be of material consequence when the wood is exposed to the attacks of insects, such as the white ant in India, which I believe would be repelled by the poisonous metallic salt.

"After being long macerated in cold water, or even boiled in water, thin chips of the prepared wood retain a sensible quantity of the oxide of zinc; which I confirmed by Mr. Toplis's test, and observing that the wood can be permanently dyed from being charged with a metallic mordant.

"I have no doubt, from repeated observations made during several years, of the valuable preservative qualities of the solution of chloride of zinc, as applied in Sir. W. Burnett's process; and would refer its beneficial action chiefly to the small quantity of the metallic salt which is permanently retained by the ligneous fibre in all circumstances of exposure. The oxide of zinc appears to alter and harden the FIBRE of wood, and destroy the solubility, and prevent the tendency to decomposition of the azotised principles it contains, by entering into chemical combination with them.

(Signed) "THOMAS GRAHAM."

"University College, 25th October, 1845.

From Professors BRANDE and COOPER.

"London, 4th November, 1845.

"SIR,—We have this day again examined the specimens of canvas and wood prepared according to the specification of your patent, and which, in the month of April, 1844, we placed in a damp cellar, where they have remained up to this date.

"We are now enabled satisfactorily to corroborate the favourable opinion expressed in our former report. The canvas remains amply protected from all fungous vegetation and rottenness, while a corresponding sample of the same piece, which had not been prepared by immersion in the solution of chloride of zinc, is entirely decayed, being mouldy, rotten, black, and in places resembles timber.

"We have also lately compared the strength of a fibre of a piece of canvas which we prepared according to your specification, in October, 1844, with that of the fibre of the same canvas, unprepared, and find that it has in that respect sustained no injury. We are therefore of opinion that your process will not, after any lapse of time, tend to deteriorate the strength of the fibres of the substances in question.

"In regard to the several samples of different species of wood above adverted to, each of which was cut into two, one half being imbued according to the directions of your specification with the dilute solution of chloride of zinc, while the other half was left in its original condition, we have also to make a favourable report, and to repeat our opinion of the efficacy of your process as a preventive of dry rot, and similar sources of decay; the unprepared specimens are manifesting symptoms of decay and mildew, while those which have been protected by your preparation are clean and sound.—(Signed) "WILLIAM THOMAS BRANDE,
"JOHN THOMAS COOPER."

"To Sir William Burnett, K.C.H., F.R.S., &c. &c."

Testimonials from numerous other parties may be obtained on application, personally or by letter, to the Secretary, and Specimens may be seen at the Office, 53, King William-street, London-bridge.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a LARGE ASSORTMENT of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1½ inch thick. Rough Boarding for Flats.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Smith-street, Westminster.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, Old-Barge-Wharf, Upper Ground-street, Blackfriars, and and at his Depôt, H. Castle's, Ship-yard, Millbank, Westminster, a very large stock of well-seasoned Floor Boards of every variety.

A. R., in calling the attention of builders and consumers, confidently presumes on his being able to supply them on such advantageous terms, as will ensure and merit their favours and approbation.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

MUIR'S PATENT PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD CUTTING COMPANY continue to receive the most satisfactory assurances from all who have tested the capabilities of their improved machinery, by its performances, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, dispatch, and economy of material are so certainly obtained. In shooting, or grooving and tongueing a board (although curved), the machine follows the edge, and removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, and unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

TO ARCHITECTS, ENGINEERS, CONTRACTORS, BUILDERS, MASONS, AND PLASTERERS, MERCHANTS, SHIPPERS, AND THE PUBLIC IN GENERAL.

JOHNS and CO.'S PATENT STUCCO CEMENT.—The following are the positive advantages possessed by this Invention over every Cement hitherto introduced:—It will effectually resist Damp. It will never vegetate nor turn green, nor otherwise discolour. It will never crack, blister, nor peel off. It will form a complete Stone casing to any Building covered with it. It so closely resembles Stone that it is impossible to detect it. It never requires either to be painted or coloured. It will keep fresh and good in the cask in any Climate for any number of years. It is the only Cement that can be depended upon for export. It is the only Cement that can be used with confidence by the Sea-side. It may be used in the hottest or coldest Climates at any season. It will adhere to any substance, even to Wood, Iron, or Glass. It will carry a larger Proportion of Sand than any other Cement. It matures by age, and becomes perfect when other Cements begin to perish. It may be worked through the Winter, as frost has no effect upon it. It may be used on the Inner Walls of new Houses, which may be papered over or painted directly. Roofs laid or pointed with this Cement will remain undamaged by the severest Storms. Any Plasterer may apply it, the Instructions for use being very clear and distinct. The first cost of this material does not exceed that of the cheapest Cement now in use; but with all the above-named extraordinary and valuable advantages, nothing can approach it in point of economy.

Architects and Builders who have used this Cement have declared that it requires only to be known, to be universally preferred.

Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, together with a volume of Testimonials from every part of the Kingdom, may be obtained on application at the office of "The Builder," and of MANN and CO., SOLE AGENTS for the Patentees, 5, Maiden-lane, Queen-street, Cheapside, London: of whom also may be had,

JOHNS and CO.'S PATENT STONE-COLOUR STUCCO PAINT, expressly intended for Painting over exterior Walls of Houses that have been covered with Roman or other Cements, and which have become dirty and discoloured. It is in every way better suited for this purpose than White Lead Paint, which will frequently come off in flakes, being in direct chemical opposition with Cement; whereas MESSRS. JOHNS and CO.'S PATENT PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the wall proof against weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheap in its application,—and may be used by any Painter, in any climate, even in the most exposed Marine situations.

PORTLAND CEMENT does not vegetate in damp situations, requires no colouring, is perfectly hydraulic, and resists the action of frost. The price is now considerably reduced, and the public are thereby enabled to avail themselves of these distinct advantages.

Manufactured by J. B. WHITE and SONS, of Millbank-street, Westminster; and sold at their warehouses—Earl-street, Blackfriars; Druce's Wharf, Chelsea; Bell's Wharf, Paddington; and Albion Wharf, Deptford-bridge; at Seel-street, Liverpool; and Salmon and Co.'s, Dublin.

ROMAN CEMENT, &c.
REMOVAL.
THOMAS JOHN CROGGON
Begs to inform the Trade that he has removed to
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THREE CRANES WHARF, 69, Upper Thames-street.

Orders addressed to either place for ROMAN CEMENT of genuine quality will be executed with promptitude and the strictest regard to quality and economy.

KEENE'S PATENT MARBLE CEMENT.

WITHOUT noticing CAUTIONS, which are as absurd as they are uncalled for, or disproving assertions, which carry with them their own refutation, the patentees of KEENE'S CEMENT venture to believe, that this material will very advantageously stand the test of comparison with any cement of a similar nature, however INVALUABLE, now before the public. They derive this opinion from its all but exclusive use in the new buildings north of Hyde-park, on the Brompton estate, and in many other public and private edifices, both in London and the country. Amongst others may be mentioned the works recently executed at the Colosseum, Regent's-park, where its hardness and beauty of appearance have caused it to be extensively used for skirting and other mouldings, in place of wood, for columns instead of marble, and as a substitute for stone in paving the floors of the corridors and conservatories.

Patentees and manufacturers, J. B. WHITE & SONS, Millbank-street, Westminster,

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves, that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and, being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of hall and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 99, Canning-place, Liverpool.

THE PROJECTED RAILWAYS.

BENSON, LOGAN, and CO.'S PATENT METALLIC SAND CEMENT.—Its merits, as stated in letter to the Proprietors, by James Thomas Knowles, Esq., Architect, Raymond's Buildings, Gray's Inn, are:—

1st.—The great tenacity with which it adheres to brick, stone, and iron.

2ndly.—"Its freedom (when properly applied) from those cracks and flaws, by which the cements generally used for external stuccoing are so frequently disfigured.

3dly.—"The total absence of the unsightly tint produced by vegetation.

4thly.—"The increased hardness which it acquires from exposure to atmospheric influences.

5thly.—"The great beauty, accuracy, and durability of the mouldings, capitals of columns, crockets, finials, and other architectural enrichments and decorations formed of it, the smallest and most delicate members of which, as well as the sharpest arises, have withstood uninjured the severities of our climate during many winters, and now present the same perfect and highly finished appearance as would be produced by stone carvings carefully executed.

6thly.—"The excellent and agreeable tone of colour which it assumes naturally, and retains without the aid of any colouring or painting.

"And lastly, its extreme hardness and almost entire incompressibility when used as a mortar in the construction of inverted or relieving arches, foundations under important superstructures, and small bearing piers, which have to sustain great weights. For all these purposes it has been extensively used under my directions, and in some cases has been exposed to very severe trials. The results have, however, without one exception, been most satisfactory; and I do not believe that there are any known substances so well adapted for the execution of works, in which the greatest strength and durability are essential."

Further information will be given, and specimens shewn, on application to Mr. C. K. DYER, 4, New Broad-street, and at the Metallic Cement Wharf, King's-road (opposite Pratt-street), Camden New Town, London.

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